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REPORT

ON

LABOUR IMMIGRATION INTO ASSAM

FOR THE YEAR

1890.

SHILLONG:
ASSAM SECRETARIAT PRINTING
1891.

Price One Rupee.

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REPORT

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CHAPTER I.

IMMIGRATION.

1. As the special triennial report on the working of Act I of 1882, which dealt very fully with the matter in its several aspects so far as this Province is concerned, is still before the Government of India, and no orders have yet been received upon it, the present chapter will be confined to an exhibition of the statistics of immigration during the year 1890, accompanied by such remarks as may be necessary in explanation of any noteworthy variations between the results and those shown in the previous year.

2. The following table compares the immigration of all classes of labourers into the Province during the past two years :

Provincial figures.

		1889	1890.	Increase or decrease.	Percentage of increase or decrease.
Act ...	Sárdari adults ...	15,277	7,291	− 7,986	−52·2
	Contractors' adults ...	9,522	10,082	+ 560	+ 5·8
Non-Act adults		12,749	8,832	− 3,917	−30·7
Total		37,548	26,205	−11,343	−30·2
Children		18,110	9,875	− 8,235	−45·4
Grand total, including children ...		55,658	36,080	−19,578	−35·1

The noteworthy features in this statement are the considerable falling off which took place in immigration generally, and the fact that this decrease was common to all classes of immigrants except contractors' adults. As regards the falling off generally, various explanations are offered by the district officers, such as the depression from which the tea industry is suffering, and the consequent curtailment of garden extensions, the fact that abnormal demands for labour have sprung up in some of the districts of recruitment, which have had the effect of absorbing all surplus labour, and (in Sylhet) the gardens being already sufficiently well supplied with labour, and there being consequently no demand for additional labourers. The Chief Commissioner is not in a position to determine what weight should be assigned to each of these causes or to

any others which may exist, but it seems highly probable that the starting of various new enterprises in Chota Nagpur may have interposed unusual difficulties in the way of recruiting labour for a distant province. This conclusion is fully supported by the figures in the statement embodied in paragraph 4 of the present report. The fact that while the number of contractors' adults advanced by 5·8 per cent., sardári adults (Act) and non-Act adults fell off by 52·2 and 30·7 per cent., respectively, clearly indicates that for some reason or other the systems of sardári and free recruitment have sustained a check, and, bearing in mind that contractors' coolies are as a rule of poorer physique and less suitable for tea-garden work than coolies recruited by sardárs, the falling off which has taken place in the case of the latter is to be regretted. The Chief Commissioner cannot find any sufficient explanation of this result beyond what has been above suggested, and can only hope that the reason, whatever it may be, is one the operation of which will prove to be merely temporary. The falling off in the number of children naturally follows upon the decrease in recruitment by the sardári and free methods. It may be useful to give here the totals under each head for each of the past five years :

	1886.	1887.	1888.	1889.	1890.
Act adults	16,355	21,639	22,601	24,799	17,373
Non-Act adults ...	6,360	7,451	10,716	12,749	8,832
Total of Act adults and non-Act adults ...	22,715	29,090	33,317	37,548	26,205
Children	8,179	7,373	12,976	18,110	9,875
Grand total, including children	30,894	36,463	46,293	55,658	36,080

It will thus be seen that the total importation of adults during 1890 has fallen considerably below what it was in 1887, while, if children are included, the figures closely approximate to what they were three years ago.

District and valley statistics.

3. The following table gives the statistics of importations for each district of the Province separately :

District.	Act adults.			Non-Act adults.			Total of Act and non-Act adults.			Children			Grand total, including children.		
	1889.	1890.	Percentage of increase or decrease.	1889.	1890.	Percentage of increase or decrease.	1889.	1890.	Percentage of increase or decrease.	1889.	1890	Percentage of increase or decrease.	1889.	1890.	Percentage of increase or decrease.
Cachar	2,450	1,382	—43·59	3,227	1,480	—55·06	5,677	2,832	—50·11	1,385	591	—57·32	7,062	3,423	—51·52
Sylhet	1,193	702	—41·15	5,886	4,301	—26·93	7,079	5,003	29·32	4,955	3,103	—37·37	12,034	8,106	—32·64
Total Surma Valley	3,643	2,084	—42·79	9,113	5,751	—63·10	12,756	7,835	38·57	6,340	3,694	—41·73	19,096	11,529	—39·62
Kámrúp ..	286	227	—20·62	32	11	—65·63	318	238	—25·16	191	17	—91·09	509	255	—49·90
Darrang ..	3,775	2,738	—27 60	356	354	—·56	4,131	3,087	—25·27	2,033	1,176	—42·15	6,164	4.263	—30·84
Nowgong ..	1,425	931	—34·66	551	1,062	+92·74	1,976	1,993	+·86	741	425	42·64	2,717	2,418	—11·00
Sibságar ..	7,210	4,961	—31·19	669	428	—51·33	5,079	5,384	—33 35	4,978	2,868	—42·39	12,457	7,647	- 38 61
Lakhimpur ..	8,460	6,437	—23·91	1,828	1,231	—32·65	10,288	17,668	—25·46	4,427	2,900	—48 04	14,715	9,968	—32·26
Total Assam Valley	21,156	15,289	—27·73	3,636	3,081	—15·26	24,792	18,370	—25·90	11,770	6,181	—47·48	36,562	24,551	—32·85
Grand total ..	24,799	17,373	—29·94	12,749	8,832	—30·72	37,548	26 205	—30·21	18,110	9,875	—45·47	55,658	36,080	—35·17

It will thus be seen that with the solitary exception of Nowgong—and there only under the head of non-Act adults (in that district mainly Assamese)—there has been a decrease in the case of all districts, and under both heads of Act adults and non-Act adults. Comparing the two valleys, the decrease under both classes was far larger in the Surma Valley than in the Assam Valley. In regard to children, a more or less considerable falling off occurred in the case of every district. It may be noted as regards Sylhet that the falling off was entirely due to the figures for one subdivision, South Sylhet, where the subdivisional officer explains that the South Sylhet Tea Company have been recruiting only to a small extent, owing to inconsiderable extension and the existence of a full staff of coolies.

4. The following tabular statement distributes the adult immigrants according to their sex between the various recruiting districts :

Nationality of immigrants.

Nationality of immigrants		Act.				Non-Act.		Total.	
		Garden sardárs.		Contractors.					
		1889	1890	1889	1890.	1889.	1890.	1889.	1890.
1		2	3	4	5	6	7	8	9
Bengal	Men ...	813	439	765	848	1,161	555	2,739	1,842
	Women ...	750	366	793	814	1,052	453	2,595	1,633
Total	... ...	1,563	805	1,558	1,662	2,213	1,008	5,334	3,475
North-Western Provinces, Oudh, and Behar.	Men ...	1,098	678	512	767	2,894	2,010	4,504	3,455
	Women ...	884	473	415	549	2,057	1,605	3,356	2,627
Total	... ...	1,982	1,151	927	1,316	4,951	3,615	7,860	6,082
Chota Nagpur ...	Men ...	6,219	2,561	3,609	3,308	2,193	1,017	12,021	6,886
	Women ...	5,374	2,489	3,382	2,843	2,100	944	10,856	6,276
Total	... ...	11,593	5,050	6,991	6,151	4,293	1,961	22,877	13,162
Nepal	Men ...	.....	1	.....	16	8	10	8	27
	Women ...	3	1	4	.....	4	12	11	13
Total	... ...	3	2	4	16	12	22	19	40
Madras	Men ...	75	158	11	552	276	345	362	1,055
	Women ...	61	102	9	355	257	383	327	840
Total	... ...	136	260	20	907	533	728	689	1,895
Bombay	Men ...	.....	2	.....	1	.....	2	.....	5
	Women ...	.....	2	.....	.....	.....	3	.....	5
Total	... ...	.....	4	.....	1	.....	5	.....	10
Assam	Men ...	.....	.....	22	15	650	1,393	672	1,408
	Women ...	.....	.....	.....	14	59	61	59	75
Total	... ...	.....	.....	22	29	709	1,454	731	1,483
Orissa	Men ...	.....	10	.....	.....	19	24	19	34
	Women ...	.....	9	.....	.....	19	15	19	24
Total	... ...	.....	19	.....	.....	38	39	38	58
Total	Men ...	8,205	3,849	4,919	5,507	7,201	5,356	20,325	14,712
	Women ...	7,072	3,442	4,603	4,575	5,548	3,476	17,223	11,493
Grand total ...	... ...	15,277	7,291	9,522	10,082	12,749	8,832	37,548	26,205

This statement shows greater activity in recruitment in the case of Madras and Assam (and to a lesser extent in that of Nepal, Bombay and Orissa) and considerably smaller results in Bengal, North-Western Provinces and Behar, and especially Chota Nagpur. An explanation has already been suggested of these results so far as Chota Nagpur is concerned (paragraph 1). As in the preceding year, Act importations were chiefly from Chota Nagpur, while the greater number of those imported otherwise than under the Act came from the North-Western Provinces, Oudh and Behar. It is curious that the Act importations from Bengal and the North-Western Provinces, Oudh and Behar should have stood at exactly the same figure. The following tables show the relative order in which each locality of recruitment stands in respect of Act and non-Act importations :

(*a*) *Act importations.*

Locality of recruitment.	Recruited by		Total number of labourers imported during 1890.
	Garden sardárs.	Contractors.	
(1) Chota Nagpur	5,050	6,151	11,201
(2) Bengal	805	1,662	2,467
(3) North-Western Provinces, Oudh and Behar.	1,151	1,316	2,467

(*b*) *Non-Act importations.*

	Number of labourers imported.
(1) North-Western Provinces, Oudh and Behar	3,615
(2) Chota Nagpur	1,961
(3) Bengal	1,008

It is noteworthy that, whereas the number of Chota Nagpur coolies supplied by contractors decreased from 6,991 in the previous year to 6,151, or by 12 per cent,, the number of similar coolies recruited by garden sardárs fell from 11,593 to 5,050, or by as much as 56·4 per cent. Further, in spite of the general falling off in the number of labourers imported, Bengal supplied under the head of contractors' coolies 1,662, against 1,558 last year, and the North-Western Provinces, Oudh and Behar supplied 1,816, against 927. In all cases there was a considerable decrease in the non-Act importations, which fell in the case of the North-Western Provinces, Oudh and Behar from 4,951 to 3,615, or by 26·9 per cent., in that of Chota Nagpur from 4,293 to 1,961, or by 54·3 per cent., and in that of Bengal from 2,213 to 1,008, or by 54·4 per cent. In future reports, coolies from Behar will be shown separately instead of being, as at present, grouped with those from the North Western Provinces and Oudh.

Female immigrants.

5. The proportion of women amongst adult immigrants from the chief districts of recruitment is given below ;

Locality of recruitment.	Percentage of women to men among							
	Sardári immigrants.		Contractors' immigrants.		Non-Act immigrants.		All adult immigrants.	
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890
Bengal	47·9	45·4	50·9	48·9	47·5	44·9	48·6	46·9
North-Western Provinces, Oudh and Behar.	44·6	41·1	44 7	41·7	41·5	44·3	42·6	43·1
Chota Nagpur	46·3	49·2	48·3	46·2	48·9	48·1	47·4	47·6
Total	46·2	47·2	48·3	45·3	43·5	39·3	45·8	43·8

The decrease in the percentage of women amongst contractors' coolies and non-Act immigrants and the falling off in the general Provincial percentage among all adult immigrants are unsatisfactory features.

Contractors' and sardári coolies.

6. The following table gives the number of Act coolies imported during the past two years into each district, and shows the average number imported by each sardár :

District.	Sardári coolies.		Number of certificates granted to garden sardárs		Average recruits per sardár.		Contractors' coolies.		Percentage of increase or decrease of importations during 1890, as compared with 1889.	
	1889.	1890.	1889.	1890.	1889	1890.	1889.	1890.	Sardári.	Contractors.
Cachar	1,809	862	576	480	3·1	1·7	641	520	—52·3	—18·8
Sylhet	1,142	653	287	241	3·9	2 7	51	49	—42·8	— 3·9
Total Surma Valley ...	2,951	1,515	863	721	3·4	2 1	692	569	—48·6	—17·7
Kámrúp	281	141	43	48	6·5	2·9	5	86	—49·8	+ 1,620·0
Darrang	2,643	829	771	672	3·4	1·2	1,132	1,904	— 68 6	+ 68·1
Nowgong	929	491	256	226	3·6	2·1	496	440	—46·6	—11·2
Sibságar	4,328	2,314	1,052	898	4·1	2·5	2,882	2,647	—46·5	— 8·1
Lakhimpur ...	4,145	2,001	687	642	6·0	3·1	4,315	4,436	—51·7	+ 2·8
Total Assam Valley ...	12,326	5,776	2,809	2,486	4·3	2·3	8,830	9,513	—53·1	+ 7·7
Grand total ...	15,277	7,291	3,672	3,207	4·1	2·2	9,522	10,082	—52·2	+ 5·8

The decrease which took place in the number of certificates granted to garden sardárs, which represents a percentage of 12·6 on the figures of the previous year, is wholly insufficient to account for the reduction in sardári importations, which represents a percentage of 52·2 on the figures of 1889. This fact coupled with the further fact that the average recruits per sardár show a considerable falling off in every district supports the conclusion that the causes which prejudicially affected sardári recruitment during the year under report are to be sought for rather in the districts of recruitment than in the labour districts. The number of certificates which provided for the medical examination of labourers prior to engagement was 1,177, against 1,169 in the previous year.

Cost of importation.

7. There is no new information to be recorded under this head. The matter has been fully discussed in previous Provincial reports and in the special report on the working of Act I of 1882.

Transit of immigrants to the Assam Valley.

8. During the year under report 17,199 immigrants started from the recruiting districts for Assam, against 34,507 in the previous year, showing a decrease of 17,308. The casualties *en route*, that is the number of immigrants who died or absconded, were 46, of whom eight only died, against 104, of whom 93 died, during the previous year. Detentions on account of sickness aggregated 51, against 61 during 1889. The number of coolies who came up to Dhubri free was 12,154, against 29,426 in the previous year, and of these 178 passed as free immigrants, and of the balance 8,648 persons were put under contract and 3,328 were passed as dependents attached to them. Of the 11,453 contracts executed at Dhubri, 2,640 (1,719 labourers with 921 dependents) were for a period of three years, and 8,813 (6,411 labourers and 2,402 dependents) were for a period of five years. Eight thousand six hundred and forty-seven immigrants were examined by the Civil Surgeon before being put under local contracts, of whom 8,137 were passed and 510 were rejected. Of those rejected, 186 were sent on as dependents and 148 as free by the depôt managers, and 40 were returned to their homes by the Civil Surgeon. A noteworthy feature in connection with the transit of immigrants to the Assam Valley during the year under report was the increased extent to which resort was had to the steamer route by Goalundo in place of the railway route by Kaunia, 3,850 of the smaller number of importations during 1890 having come by Goalundo as compared with 3,122 of the far larger number of importations during 1889. In addition to these, 7,629 immigrants were despatched from Goalundo direct to gardens in the Assam Valley, against 1,763 in the previous year. As regards the use of the Goalundo in preference to the Kaunia route, the Commissioner, Assam Valley Districts, writes—

"In the last paragraph I have referred to immigrants imported by the Goalundo route. By this I mean immigrants who did not pass through the Dhubri depôts. Besides the 7,629 immigrants imported by the Goalundo route, who passed through the Goalundo depôts, and not through the Dhubri depôts, 3,850 of the immigrants imported through Dhubri reached that place by the Goalundo route. The number of immigrants who reached Dhubri by the Kaunia route was 13,257, against 31,291 in 1889. Act I (B.C.) of 1889 and the rules published by the Government of Bengal thereunder with Notification dated the 28th May 1889 now give immigrants by this route ample protection. I have no complaints on this subject, such as I have had in former years. Still the Kaunia route, as predicted by Mr. Godfrey, is losing ground ; 11,479 immigrants adopted the Goalundo route against 4,885 in 1889. Out of 7,438 immigrants who have arrived at Dhubri in the last three months ending March 31st, 1891, only 3,946 adopted the Kaunia route. When I was lately at Dhubri I gathered that the stricter protective measures now adopted had made this route unpopular."

The following memorandum, for which the thanks of the Chief Commissioner are due to Dr. Dobson, the Civil Surgeon at Dhubri, who has had considerable experience and who has for some years past taken special interest in the matter, throws further light on this subject :

"Coolies leave Raneegunge, East Indian Railway, at 12 noon, arrive Naihâti on the Eastern Bengal Railway at 6-30 p.m., where they get a cooked meal. They leave Naihâti at 9 p.m. the same day, and arrive at Goalundo at 5-30 next morning. If steamer space is available, and if *no* obstacles are placed in the way, the coolies are shipped at once, as advice as to number, &c., having been wired from Raneegunge or Naihâti, clothing is ready to be distributed to the coolies, and the necessary shipment papers are made out on board the steamer, which usually leaves by 9 a.m., unless there is cargo, &c., to take on board. Once on board, the coolies get their meals twice daily, and the usual rules are carried out. The above is what is done by Mr. Logan, who is agent for the Tea Districts Labour-supply Association. By working up his establishment, he is able to see that there is no detention at Goalundo, but he admits that the above can only be done in a slack season when coolies are not numerous. If coolies arrived in large batches, it would he says be hopeless to attempt to ship them at Goalundo the very morning they arrive. As it was, it took him some time before he could get his present arrangements carried out. Mr. Logan receives all his coolies *viâ* Goalundo. The free coolies are landed at Dhubri on the third day after leaving Goalundo, and are shipped 24 hours later, that is, after being placed on contract.

"Coolies travelling by the Kaunia route leave Raneegunge at 12 noon, and have the same treatment as far as Naihâti, where they also get a cooked meal. They leave Naihâti at 9 p.m., and reach Saraghat at 6-30 next morning, where they get a cooked meal. They stop at Sara all day in the depôt. They then get their dinner here and leave at 9 p.m. for Parbatipur, which is reached at 4-30 next morning. They wait here 24 hours (so as to enable them to have a cooked meal, as laid down by Bengal Government in 1890), and then catch the same hour's train they came by and arrive at Kaunia at 6-30 a.m. They leave Kaunia at once and reach Dhubri by 3-30 p.m. At Dhubri all coolies adopting the Kaunia-Dhubri route go to the depôt for the night, are inspected next morning, and such as are free are put on contract, and all, whether contracted in the districts or at Dhubri, are shipped by 3-30 p.m., that is they remain 24 hours at Dhubri, so that the Raneegunge-Kaunia Dhubri route takes 4 days and 3½ hours. The Raneegunge-Goalundo route to Dhubri takes exactly the same time ; but if it was a busy season, Mr. Logan states coolies must of necessity be kept 24 hours longer at Goalundo.

"By the Kaunia route the halt at Sara for the day seems to me to be a very desirable one, but the Parbatipur one seems open to objection. To begin with, the coolies are turned out at a very early hour on both arriving at, and leaving this place, and this must be uncomfortable to say the least of it. The cooked meal at Parbatipur is said to be given on arrival, and another in the evening. The former I can hardly believe is given before 10 a.m. Nor is there any necessity for it earlier, as the coolies get a cooked dinner before leaving Sara, and before leaving Parbatipur next morning they get *jalpan* (refreshment). If this break at Parbatipur was done away with and the coolies allowed to proceed, they would reach Dhubri 24 hours sooner. At Kaunia refreshments could be served out to them, and at 3-30 p.m. they would be at Dhubri, comfortably housed, and get their cooked dinner by 5 p.m. Considering the coolies have (we presume) a cooked meal before leaving Ranigunge, another at Naihâti that same evening, the following morning and night two others at Sara, it would not be much of a hardship if they had no cooked food till 24 hours later, that is on arrival at Dhubri, provided of course that they had refreshments at Kaunia. The detention at Parbatipur has not been kindly taken to by contractors, &c. The inconveniences here are great, it necessitates the upkeep of another establishment, and affords yet another place for coolies to be tampered with by unscrupulous persons *en route*.

"The cost of a registered coolie—

Viâ GOALUNDO.

	Rs.	a.
Rail from Raneegunge to Goalundo per adult	... 3	0
One day's food	... 0	3
Steamer fare to Dibrugarh	... 13	0
Total	... 16	3

Viâ KAUNIA.

	Rs.	a.
Rail from Raneegunge to Dhubri ...	5	2
Four days' food ...	... 0	12
One day's ditto at Dhubri ...	... 0	3
Steamer fare, Dhubri to Dibrugarh	... 10	0
Total	... 16	1

The cost of an unregistered coolie is as follows :

	Rs.	a.
Rail, Raneegunge to Goalundo	... 3	0
One day's food	... 0	3
Steamer fare, Goalundo to Dhubri	... 3	8
Total	... 6	11

	Rs.	a.
Rail from Raneegunge to Dhubri ...	5	2
Four days' food	0	12
Total	5	14

"There is also a difference in adults, as the railway charge is nothing for infants up to three years of age, whilst the steamer companies charge one-fourth rates up to three years and half rates between three and ten years.

"Coolies from Monghyr, Arrah, Gya, and Jubbulpore, &c., could come by Shahebganj, Dinagepore, and Kaunia, but this would necessitate more depôts and establishments, and so these people go on to Raneegunge, which seems a very roundabout route for them to adopt. It is also believed Government issued a circular to the effect that it was not meant as a route for coolies.

"The reasons given for coolies leaving the Kaunia or railway route to Dhubri are as follows :—In Mr. Logan's case during the last two years four-fifths of his coolies have been placed on contract in the recruiting districts, and as he has to keep up a Goalundo establishment in addition to his Dhubri one, he finds it far less troublesome adopting the Goalundo route, for, as he puts it,—

"'I am done with the trouble attendant at Sara, Parbatipur, and Kaunia, where the coolies are subjected to all sorts of unnecessary interference by railway police and native subordinates. Contractors have also taken to the Goalundo route for the same reasons. Their coolies are no longer troubled by persons who frighten them into absconding by telling them all sorts of improbable stories when they fail to extort money from peons and others who are in charge, and also when during cholera seasons the coolie traffic gave a good deal of extra work to the railway menial servants. Reports were frequently made to the railway authorities, but nothing ever came of them. Then, again, in addition to all this trouble, a great source of annoyance was the very heavy charges made by the railway native medical subordinates for the treatment of cholera cases.'

"Mr. Logan had a bill for one coolie for Rs. 72, which, he says—

"'It is needless to say I refused to pay. This coolie was hurt in a railway accident, and was treated by the Railway Assistant Surgeon at Sara, who submitted the bill. This occurred two years ago, but is an instance of what has tended to make the Kaunia route unpopular.'

"A rate for attendance was fixed by Government, which, Mr. Logan adds,—

"Every one was glad enough to pay, provided the attendance was given.'

"Take, for instance (he says), the cholera hospital at Kurigram. It was a shed about a mile away from the station. The unfortunate coolie was put in here and left and bills submitted (he thinks) at Re. 1-8 per diem per patient and 4 annas per diem for attendance. Dieting was a separate item, and (he adds) unless all those things were paid for without a murmur, you would find the whole of your coolies, or half of them any way, detained, because one of them had had or was said to have had, a suspicious stool at some station *en route*. This was borne out afterwards by the whole of the coolies arriving next day perfectly well. Mr. Logan adds—

"'This of course is from recollection, as it is some time since it occurred.'

"At Kaunia the transhipment officer used to submit bills for dieting of coolies detained there on account of one case of cholera. Perhaps the whole batch was detained for this one case. If the family belonging to the cholera-afflicted coolie had been detained, it would have sufficed, but why detain the whole batch, and the absurdity of this rule was evident, for if the patient died by the following day, the detained coolies were all sent on to Dhubri. Mr. Logan informs me his Association does not intend, as far as he knows, closing the Kaunia route. He has to keep up an establishment at Sara and Parbatipur in the depôts, so as to have an alternate route in case of cholera.

"Mr. Baptist is manager of the General Coolie Recruiting Association, which is an offshoot of Mr. Logan's depôt, owing to some disagreement between certain firms comprising the Tea Districts Labour-supply Association. To this depôt, which by the way has only been in existence about 18 months, all coolies recruited by the Association come by the Kaunia route, their contractors also adopt the

route excepting Messrs. Williams and Saubolle of Raneeganj, who send their coolies by Goalundo, as their *chalan* peons say the Railway Police and doctors at Sara and Parbatipur give great trouble, which trouble can only be avoided by a free expenditure of cash, to which very naturally their masters object.

Mr. Baptist also refers to the detention of coolies for trifling causes, their admission into hospital for treatment, and the enormous charges for such. Mr. Baptist has no doubt but that the police and medical subordinates are overzealous in the discharge of their duties. To his personal knowledge the railway coolies (up-country men and Uriahs) working at Damookdia and Sara not very long ago gave a lot of trouble, which necessitated his Association adopting the Goalundo route for Jubbulpore and Ganjam coolies for a time. He has had no complaints recently. This Association has no depôt or establishment at Goalundo, and as it had selected the Kaunia route from the first, has stuck to it. It must not be forgotten that this Association came into existence after the two cholera seasons of 1888 and 1889, and that conseqnently it has not suffered from the causes Mr. Logan and his predecessor, Mr. Saubolle, complain against.

"The Assam Company is another of the depôts here, but they do a very small amount of work, and they hold to the Kaunia route, because, I fancy, it would not pay them to open an establishment at Goalundo. Personally I have never been able to see any reason for the existence of this forwarding agency, the work of which I have no doubt could be done just as well and much cheaper by utilizing one of the other depôts. But of course this is a point to which we have nothing to say.

"The fourth and the last depôt here is Babu H. L. Mukerjea's. Most of his work has gone to Goalundo, and this is easily understood, as he is a licensed contractor under the Act, a free labour agent and also a general contractor, he has a forwarding depôt at Goalundo, and is contractor for supplying of coolie stores on board the steamers, has depôts in Calcutta, and supplies, I believe, a large amount of labour to the Surma Valley. In his case the steamer companies have also had a voice in getting him to adopt the Goalundo route, for it must not be forgotten that he has the sub-contract for messing the coolies. It is an open secret that the steamer companies are trying to secure the coolie traffic from Goalundo. If they succeed in doing this, they will make so much more, as their steamers run daily from Goalundo. The Kaunia route benefits the railway. Mr. Logan's depôt is the Tea Districts Labour Supply Association, and the chief parties in it are Messrs. Williamson Magor & Co., Macneill & Co. (the steamer agents) and Begg Dunlop & Co. It must not be forgotten that the steamer companies are working towards Goalundo. It is the termination for both the Surma and Brahmaputra Valleys, and now that they have had further concessions from Government, they are working more than ever with a view to getting the coolie traffic into their hands from Goalundo.

"Personally I think the longer steamer journey will prove a mistake in cholera seasons, especially so when we have brisk immigration seasons, for I think no one will doubt but that the longer large numbers of human beings are cooped up or collected in small space, the greater is the possibility of cholera occurring. Again Goalundo, if I mistake not, is in the so-called endemic area of cholera, and the immigration reports during the seventies will show that cholera was very prevalent on board steamers. The journey from Goalundo to Dibrugarh now occupies seven days, nearly double the time it does from Dhubri, and is only about half what it was in the days of the big steamers. By the Kaunia route if the coolie is looked after *from* the recruiting districts *to* Raneeganj, I think the good food, cleanly depôts between Raneeganj and Dhubri, the different changes *en route*, the avoidance of being cooped up on a steamer for very many days at a time will all tend to make the Raneeganj Kaunia-Dhubri route a more favourable one, so far as the health of the coolie is concerned. This however is a question that time alone can decide.

"The railway authorities on our representations had taken to providing proper train accommodation, but unfortunately their too zealous subordinates have been allowed to work against them, and the result must be a great decrease in the earnings of the railway under the head 'coolie traffic.' This however so far as we are concerned would be nothing if it really tends to benefit the coolie and permitted of his being imported cheaper into the Province. It will however be noticed that the charges by Goalundo are heavier, but this can be of no consequence to the agents of gardens, if it is, as one often hears, the more the agents can spend the more they get as commission.

"Regarding the cooked meals at Parbatipur, I would not be surprised to hear only one was given, though the agent has to pay for two meals. The coolies are supposed to get two, as they halt there for 24 hours. The arrival at this station is at an unfortunate hour, and if there was sickness *en route*, the sick would be more than ever inconvenienced. I should have thought Kaunia at 6-30 a.m. would have been a better place to turn coolies out at for their cooked meal, though it would be better still to let them have refreshments here and move on to reach Dhubri by evening.

"During 1888 and 1889, when cholera was bad, coolies no doubt absconded from fright at seeing their comrades die off, but there can be no doubt from the accounts one received almost daily that the railway subordinates helped very considerably to add to the causes that led coolies to abscond. Contractors at the time must have lost heavily, hence I fancy one reason at least why the large contractors adopt the Goalundo route, and also one reason why the Tea Districts Labour-supply Association adopt it, for this latter Association, which in 1888 and 1889 passed about three-fourths of the coolies, must have returned hundreds as absconded."

Transit of immigrants to the Surma Valley.

9. The Chief Commissioner is glad to notice that the importers of labour in the Cachar district are taking advantage of the steamer service for the conveyance of their coolies, and that consequently there is a material reduction in the mortality during the journey to the gardens. Thus the statistics supplied by the Deputy Commissioner of Cachar show that of 1,784 immigrants who left Goalundo for gardens in that district, 35, or 19·6 per mille, died before their destination could be reached, against 196, or 59·1 per mille, during the previous year. Of these 35 deaths, 25 occurred *en route*, and 10 in hospital, against 124 and 72 respectively in 1889 It should however be added that cholera (which

accounted for 21 of the above deaths, against 121 in the previous year) was less prevalent during 1890 than during 1889. Of the 1,784 immigrants despatched from Goalundo, 249 were forwarded direct by steamer, 128 by country boat, and 1,407 partly by steamer and partly by country boat, that is, they were conveyed as far as Fenchuganj by steamer, and were carried thence by boat. On the other hand, in the case of Sylhet from the returns supplied to the Deputy Commissioner by the local agents of the India General Steam Navigation Company, it appears that 3,563, or 43·9 per cent. of the total number of coolies imported, were brought up by steamer, against 56·14 per cent. during 1889. The number of deaths which occurred amongst the coolies imported to Sylhet between Goalundo and their destination was 2 against 59 during the previous year. Since the close of the year rules under Act I (B.C.) of 1889 have been brought into force with the object of providing for the proper sanitary supervision of labourers *en route* to the gardens in the Surma Valley, and it is hoped that these rules, without imposing unnecessary trouble on importers of labour, will have the effect of still further reducing the mortality in transit. As regards transit to the Surma Valley generally it is to be hoped that advantage to an increasing extent will be taken by labour employers of the quicker and less risky mode of conveyance provided by the steamer service, and the Chief Commissioner has little doubt that this will turn out to be the case.

Debarkation depôts.

10. The following table shows the extent to which the debarkation depôts were used during the year under report :

District.	Number of depôts.	Total number of immigrants to district.	Number that passed through depôts.	Number detained at depôts.			Contracts cancelled at depôts.	Expenditure.	
				Through want of a guide.	In hospital.	For segregation.		Buildings.	Establishments, &c.
1	2	3	4	5	6	7	8	9	10
								Rs. a. p.	Rs. a. p.
Cachar	2	3,423	1,747	.....	70	106	..	371 4 0	3,042 6 10
Sylhet	5	8,106	1,519	.....	13	62	..	347 15 9	1,347 1 7
Kámrúp	..	.....	.....	.....	..	....	..	.....	.....
Darrang	1	4,236	3,899	3,178	15	6	..	182 3 6	1,078 11 1
Nowgong	1	2,418	1,315	87	8	42	..	125 0 0	424 1 7
Sibságar	4	7,647	8,721*	4,753	45	343	..	837 2 3	2,823 3 4
Lakhimpur	1	9,968	7,973	6,573	43†	....	.	151 1 6	1,072 8 0
Total	14	35,798	25,095	14,591	194	559	..	2,014 11 0	9,788 0 5
Total for 1889	18	55,149	36,160	15,299	566	1,357	1	1,945 8 0	12,283 15 7

* This includes 1,074 immigrants for North Lakhimpur and Dibrugarh.
† This includes 8 deaths in the depôts.

A new depôt was opened at Kamalabari in the district of Sibságar for the convenience of planters in the vicinity on the understanding that the entire cost would be borne by the local planting community. As however the planters were unwilling to guarantee the expenditure involved, this depôt has since been closed. The noteworthy feature in the above statement is the large number of persons entered as having been detained through want of a guide. This matter was commented upon in paragraph 10 of last year's report when the attention of employers of labour was drawn to the risk which such detention must necessarily involve. It has been suggested, however, that the figures are misleading in so far as they include immigrants landed at depôts at night, who necessarily stop at the depôts during the night, and proceed on their way the following morning. As the return is meant to show the extent to which the several depôts are used, it is not desirable that persons thus circumstanced should be entirely excluded, but instructions will be issued that the number of persons who used the depôts under such circumstances should be shown in an additional column of the statement, which will be prescribed for this purpose. A further suggestion, which will be separately considered by the Chief Commissioner, has been made that, with a view to reduce the number of immigrants detained at the depôts owing to the want of a guide to conduct them to their destination, a slightly higher charge should be levied for the second and subsequent days during which persons are thus detained, except in the case of segregated batches.

Mortality at Dhubri and during transit on the Brahmaputra.

11. Sixteen thousand seven hundred and eighty-one immigrants (including dependents) were despatched from Dhubri to the several labour districts, of whom only four died *en route*. Besides these, 7,629 immigrants were shipped at Goalundo for gardens in the same valley, amongst whom two deaths occurred between Goalundo and Dhubri, and fifteen deaths occurred between Dhubri and Dibrugarh. Of these deaths several were due to cholera, which however was not present at Dhubri in an epidemic form. The number of deaths at Dhubri itself was 7,

against 147 in 1889. The comparative immunity of the steamers from cholera is satisfactory, and the Chief Commissioner is glad to notice that the deaths on board the steamers numbered four only, against 111 in the preceding year. The total casualties on the journey within the Province were as follows :

	Number of deaths.		
	From cholera.	From other causes.	Total, 1890.
At Dhubri	5	2	7
On board the steamers	2	2	4
At ports of debarkation	...	...	...
Gauháti	...	...	...
Tezpur	1	2	3
Silghat	1	...	1
Kokilamukh	1	7	8
Disangkmukh	6	1	7
Nigriting	3	1	4
Kamalabari	...	...	...
Mohanamukh	3	...	3
Total...	22	15	37
Total for 1889	374	57	431

The figures for the year under report do not call for remark, except that they compare very favourably with the results during 1889.

Mortality during transit to the Surma Valley districts.

12. The following figures, given by the Deputy Commissioners of Cachar and Sylhet, refer only to coolies who passed through the depôts :

District.	Year.	Number of immigrants who left Goalundo.	Deaths.			
			En route.	In hospital.	Total.	Proportion per mille.
Cachar	1890	1,784	25	10	35	19·6
	1889	3,316	124	72	196	59·1
Sylhet	1890	1,521	2	...	2	1·3
	1889	4,414	59	...	59	13·3

There was thus a considerable diminution in the mortality, which is satisfactory. The results under this head have already been noticed in another connection in paragraph 9.

Cases of kidnapping, fraudulent recruitment, and enticement.

13. During the year under report the prescribed statement showing complaints of fraudulent practices in connection with recruitment continued to be submitted by district officers every two months, and action was invariably taken when necessary. On this subject the Deputy Commissioner of Goálpára writes—

"Inquiries into fraudulent recruitment of coolies are made on three accounts, *viz.*, (*a*) on receipt of letters either from the magistrates of the recruiting districts or from the relatives of the missing persons ; (*b*) on the complaints made by the coolies themselves at the time of registration ; and (*c*) when the registering officer suspects any fraud in the recruitment of any married or unmarried young woman, unaccompanied by any relations.

"The inquiries of the first description were instituted regarding 90 persons, against 47 in the previous year. In the case of 77 persons the enquiry was unsuccessful. Only 13 persons were traced and reported of their whereabouts. The relatives of these persons lodged complaints before magistrates, but in no case (except one still pending) was any conviction obtained against any accused.

" There were 16 complaints of the second description. All the persons thus complaining were returned to the recruiting districts for having their complaints thoroughly enquired into. Nine of these persons absconded *en route*. One woman, instead of making any complaint, came back again, and was put on contract and sent up to Assam ; another person could not establish his case, and five cases are still pending.

" The registering officers made 92 enquiries on their own motion regarding unmarried or married young women on suspicion of enticement or fraudulent recruitment. In 39 cases the descriptions furnished by the women served the purpose of tracing them in their countries, and in 49 cases the enquiries were unsuccessful, and four cases are still pending. Incorrect information being supplied caused the failure of all attempts to identify them at their homes. The relatives of these persons, whose whereabouts was ascertained, took no action for getting them back, although apparently anxious to have them back. Only one person was reported to have come with the consent of her father, and eleven came of their own free will. Of the eleven pending cases shown in the last year's report, in seven cases the women were identified in their villages. The difficulties which stand in the way of recovery, such as redemption of contracts, seem to deter parents and relatives from recovering persons who have left their homes."

Commenting on these statistics the Commissioner observes—

" Though our enquiries into cases of enticement and fraudulent recruiting lead to very little result, they no doubt serve as a warning to recruiting agents and to discourage such practices. Complaints and enquiries are increasing in number, which in itself is encouraging. Dividing the complaints into three classes, as was done by Mr. Godfrey in his report for 1888, I find the numbers are -

	First class.	Second class.	Third class.
1888	42	14	40
1889	47	28	97
1890	90	16	92

In Cachar only one complaint was made under the head of fraudulent recruitment. A woman of Burdwan complained that she had been enticed away from her home by an *arkati*. Enquiries were instituted, but the case was proved to be false. The Deputy Commissioner of Sylhet reports that no case of kidnapping or enticement was brought to his notice during the year. In Kámrúp no cases of fraudulent recruitment were brought to notice. From Darrang two cases of alleged fraudulent recruiting are reported. In one case 16 coolies, who stated that they had been brought to Assam against their wishes, were repatriated, and in the second case the husband of a female emigrant, having complained that his wife had been enticed away, the Deputy Commissioner has been requested by the Commissioner to repatriate the woman if she is really wanted back by her husband. As regards the latter case, the Deputy Commissioner observes that there is not the smallest reason to impute fraud to the employer or his agents. The Deputy Commissioner of Nowgong reports that no cases of kidnapping or fraudulent recruiting were brought to light during the year. From Sibságar 9 cases are reported, all being cases of either enticement, kidnapping, or abduction. The following are the particulars of these cases. In two cases of alleged enticement, one relating to a female emigrant and the other to two minors, enquiries were made but no trace could be found of the persons concerned. Two cases of abduction were dismissed, and in two cases in which boys were said to have been enticed away to Assam, they were found to be of full age and to have emigrated of their own free will. In two other cases, in which persons were alleged to have been enticed away to Assam, it was found that the persons concerned had not left Bengal, and in the remaining case, in which a woman was stated to have been abducted from her home, enquiries are still in progress. In Lakhimpur enquiries were made into 13 cases of alleged fraudulent recruiting. Of these, 8 related to the abduction of single women, 7 of whom denied having been abducted against their will, and were willing to remain on the gardens. One girl, alleged to have been enticed away from her home, could not be traced. Three cases related to three boys who were said to be minors and to have been enticed away. In one of these cases it was found that the boy had come to Assam of his own free will and was willing to remain on the garden ; in the second the emigrant could not be traced; and the third case was dismissed, there being no sufficient ground for proceeding with it. In regard to one case the Deputy Commissioner reports—

" A gang of some 30 coolies came to Court, after debarkation, to complain that they had been enticed away and brought to this district while they were on their way to a Sylhet garden. The case was enquired into both at Sylhet and Dhubri. The allegations appeared to be false. Though at first rather unwilling to go to the garden for which they had executed contracts at Dhubri, the coolies have now settled down, and four months after some of the leaders were sent down as garden sardárs to recruit."

The remaining case, in which a man and a woman complained that they had been enticed away from their homes, is still under enquiry in Bengal.

CHAPTER II.

LABOUR FORCE.

Statistics of the labour force.

14. The table below shows the additions to and deductions from the total labour force of the Province during the year 1890 :

Labour force remaining at the end of the year 1889 (column 2 of statement)	390,468
ADDITIONS—	
Imported by contractors or garden sardárs, including free labourers and dependents imported direct (columns 3, 4, and 5 of statement) ..	36,080
Local labour contracts entered into under sections 111 and 112 of Act I of 1882 (columns 6 and 7 of statement)	17,413
Received from other gardens (column 8 of statement)	6,671
Deserters recaptured (column 9 of statement)	431
Remaining after expiry of contract (column 10 of statement) ...	14,263
Otherwise obtained (column 11 of statement)	22,648
Births (column 12 of statement)	10,293
Total	107,794
DEDUCTIONS—	
Transferred to other gardens (column 16 of statement)	4,576
Left with permission or on expiry of contract (columns 17 and 27 of statement)	50,600
Deaths (column 18 of statement)	13,949
Desertions (column 19 of statement)	12,972
Free labourers put under contract (columns 21 and 22 of statement) ..	7,518
Contracts cancelled under sections 111, 140, or 177, Act I of 1882 (column 23 of statement) ...	70
„ „ „ section 122 („ 24 „ „) ...	320
„ „ „ „ 129 („ 25 „ „) ...	1
„ redeemed „ „ 142 („ 28 „ „) ...	17
„ dissolved by mutual consent („ 29 „ „) ...	73
Suspended under section 120 of Act I of 1882 (column 26 of statement)	16
Total	90,112
Net increase during the year	17,682
Grand total at the close of the year	408,150

It will thus be seen that in spite of the considerable falling off which took place in the importation of labour, there was an increase of 17,682, or 4·5 per cent., on the labour force remaining at the close of 1889.

Mean strength of the labour force.

15 The statement below shows the total labour force at the beginning and end of each of the last three years, and the mean strength for the two half-years of 1890 :

Class of labourers.	1st January 1888.	1st January 1889.	1st January 1890.	1st July 1890.	Mean strength for the first half-year of 1890.	31st December 1890.	Mean strength for the second half-year.
Act adults	81,701	88,811	97,370	103,464	100,367	101,904	102,684
Non-Act { Adults	122,556	133,901	142,424	152,283	147,328	147,468	149,847
Non-Act { Children	119,843	132,054	150,774	157,175	153,974	158,788	157,978
Total	324,100	354,366	390,468	412,871	401,669	408,160	410,510

District figures of the labour force.

16. The details of the labour force of each district, showing the variations of strength during the year, are given below :

District.	1st January 1890.	31st December 1890.	Percentage of total Provincial force.	Increase or decrease.	Percentage of increase or decrease.
Cachar	98,357	99,856	24·4	+1,499	+1·5
Sylhet	78,223	82,717	22·4	+4,494	+5·7
Total Surma Valley ...	176,580	182,573	44·7	+5,993	+3·3
Kámrúp	3,272	3,012	0·7	—260	—7·9
Darrang	40,517	43,271	10·6	+2,751	+6·7
Nowgong	14,025	15,359	3·7	+1,334	+9·5
Siságar	87,868	91,234	22·3	+3,366	+3·8
Lakhimpur	68,206	72,701	17·8	+4,495	+6·5
Total Assam Valley ...	213,888	225,577	55·3	+11,689	+5·4
Grand total	390,468	408,150	100·0	+7,682	+4·5

The percentage of increase for the Province generally thus fell from 10·2 in the preceding year to 4·5 in the year under report.

17. The nationality and sex of the adult labour force at the beginning and end of the year are shown in the following table :

Nationality and sex of the adult labour force.

Nationality	Sex.	Act.		Non-Act.		Total.		Ratio of nationality.
		1889.	1890.	1889.	1890.	1889.	1890.	
1	2	3	4	5	6	7	8	9
Bengal	Men ..	8,956	8,733	19,105	19,738	28,061	28,471	22·4
	Women ..	8,301	8,312	18,465	19,115	26,766	27,427	
North-Western Provinces, Oudh, and Behar.	Men ..	7,461	7,104	19,097	20,062	26,558	27,166	20·2
	Women ..	5,534	5,250	16,592	17,801	22,126	23,051	
Chota Nagpur	Men ..	33,697	35,314	30,847	31,221	64,244	66,535	50·3
	Women ..	28,660	30,686	27,825	28,260	56,485	58,946	
Nepal	Men ..	33	37	118	113	151	150	0·1
	Women ..	20	19	78	74	98	93	
Madras	Men ..	888	1,685	917	1,088	1,805	2,718	2·1
	Women ..	856	1,417	847	1,180	1,703	2,597	
Bombay	Men ..	5	9	126	135	131	144	0·1
	Women ..	6	10	130	131	136	141	
Assam	Men ..	2,110	2,816	6,712	6,884	8,822	9,170	4·8
	Women ..	730	881	1,827	1,878	2,057	2,701	
Orissa	Men ..	9	19	19	45	28	64	.....
	Women ..	4	12	19	38	23	50	
Total..	Men ..	53,159	55,867	76,641	79,951	129,800	134,418	.....
	Women ..	44,111	46,587	65,783	68,412	109,894	114,949	
Grand total	.....	97,270	101,904	142,424	147,463	239,694	249,367	.....

N.B.—The differences between the entries in columns 3 and 5 and those in columns 4 and 6 of the statement embodied in paragraph 17 of the report for 1889 are due to causes explained at the foot of the statement at the end of this report.

The variations as compared with the figures for the previous year are inconsiderable, except in the case of Madras coolies, the ratio of which nationality advanced from 1·0 per cent. to 2·1 per cent. There are signs on all sides of a tendency to recruit more extensively from the Madras Presidency, mainly from the district of Ganjam.

The proportion of Act, non-Act, and all coolies belonging to each nationality is shown below :

	1889.	1890.		
	Total.	Act labourers.	Non-Act labourers.	Total.
Bengal	23·3	16·73	26·35	22·4
North-Western Provinces, Oudh, and Behar	20·2	12·12	25·68	20·2
Chota Nagpur	50·5	64·78	40·34	50·3
Nepal	0·1	·05	·13	0·1
Madras	1·0	2·99	1·49	2·1
Bombay	0·1	·02	·18	0·1
Assam	4·8	3·28	5·78	4·8
Orissa	.....	·03	·05	.....
Total	100·	100·	100·	100·

18. The mean strength in each district for each half-year and for the whole year is shown in the following table. The percentages of mortality and desertions are calculated on these figures :

Mean strength of labour force in each district.

District.	Act.			Non-Act.						Total annual strength.		
				Adults.			Children.					
	First half-year.	Second half-year.	Annual mean.	First half-year.	Second half-year.	Annual mean.	First half-year.	Second half-year.	Annual mean.	First half-year.	Second half-year.	Annual mean.
Cachar	9,653	8,688	9,170	45,606	46,978	46,292	44,058	44,401	44,229	99,318	100,068	99,692
Sylhet	9,551	9,256	9,404	40,151	41,438	40,794	30,662	31,017	31,389	80,364	82,611	81,487
Kámrúp	652	681	666	1,415	1,328	1,372	1,162	1,091	1,127	3,230	3,100	3,165
Darrang	17,614	18,802	18,208	11,599	11,384	11,491	13,157	13,560	13,358	42,370	43,747	43,058
Nowgong ..	2,985	3,236	3,110	6,881	6,989	6,910	5,188	5,441	5,312	15,000	15,667	15,333
Sibságar	34,252	35,217	34,735	21,533	21,448	21,492	24,597	25,400	24,998	80,382	82,065	81,223
Lakhimpur ..	26,658	26,803	26,231	20,192	20,281	20,236	25,154	26,168	25,661	71,004	73,252	72,128
Total	100,367	102,684	101,525	147,328	149,847	148,587	153,974	157,078	155,976	401,669	410,510	406,089

CHAPTER III.

CONTRACTS AND WAGES.

19. The number of contracts executed under section 111 of the Act fell from 17,818 in the previous year to 16,715, or by 6·1 per cent., while the number of local contracts executed under section 112 of the Act in the presence of the Inspector increased from 574 to 698, or by 21·6 per cent. In addition to the above, 8,648 contracts were executed at Dhubri under section 111 against 17,998 in the previous year, and 4,908 contracts were entered into in the recruiting districts against 6,346 in 1889. Thus the total number of contracts executed during the year under report, whether in the districts of recruitment, at Dhubri, or in the labour districts, was 30,969 against 42,736 in the preceding year. These figures do not include contracts under Act XIII of 1859.

Number of contracts made.

20. The following table shows the sex and nationality of the labourers who entered into local contracts district by district :

Nationality of labourers making local contracts.

District.	Sex.	Contracts under section 111.	Contracts under section 112.	Particulars of columns 3 and 4 by nationality.								Total of columns 3 and 4.
				Bengal.	North-Western Provinces, Oudh, and Behar.	Chota Nagpur.	Nepal.	Madras.	Bombay.	Assam.	Orissa.	
1	2	3	4	5	6	7	8	9	10	11	12	13
Cachar	Men	421	40	173	196	89	1	4	1	8	..	461
	Women	275	23	101	120	66	1	6	2	2	..	298
	Total of 1890	696	63	274	316	149	2	10	3	5	..	759
	„ „ 1889	1,448	119	477	665	424	1	....	..	....	..	1,567
Sylhet	Men	968	....	123	300	294	....	251	..	....	..	968
	Women	802	....	119	179	223	....	281	..	....	..	802
	Total of 1890	1,770	....	242	479	517	....	532	..	....	..	1,770
	„ „ 1889	4,165	57	1,446	982	1,441	....	337	..	2	14	4,222
Kámrúp	Men	3	1	....	....	....	....	....	..	4	..	4
	Women	....	....	....	....	....	....	....	..	....	..	....
	Total of 1890	3	1	....	....	....	....	....	..	4	..	4
	„ „ 1889	9	....	1	....	8	....	....	..	....	..	9
Darrang	Men	2,174	126	274	202	948	1	6	..	869	..	2,300
	Women	1,170	15	247	116	589	....	5	..	228	..	1,185
	Total of 1890	3,344	141	521	318	1,537	1	11	..	1,097	..	3,485
	„ „ 1889	2,064	90	553	239	1,302	2	9	..	1,049	..	3,134
Nowgong	Men	96	14	12	9	80	....	....	..	9	..	110
	Women	31	6	4	1	30	....	....	..	2	..	37
	Total of 1890	127	20	16	10	110	....	....	..	11	..	147
	„ „ 1889	50	31	4	....	77	....	....	..	....	..	81
Sibságar	Men	5,057	242	909	754	2,730	29	19	3	855	..	5,299
	Women	2,343	150	749	534	2,101	....	8	2	99	..	3,493
	Total of 1890	8,400	392	1,658	1,288	4,831	29	27	5	954	..	8,792
	„ „ 1889	7,494	177	1,577	994	4,328	16	63	5	688	..	7,671
Lakhimpur ..	Men	1,439	54	124	62	1,274	....	10	..	23	..	1,493
	Women	936	27	143	35	777	....	5	..	3	..	963
	Total of 1890	2,375	81	267	97	2,051	....	15	..	26	..	2,456
	„ „ 1889	1,588	100	224	30	1,354	....	30	..	50	..	1,688
	Grand total of 1890 ..	16,715	698	2,978	2,508	9,195	32	595	8	2,097	..	17,413
	„ „ „ 1889 ..	17,818	574	4,282	2,910	8,934	1	439	5	1,789	14	18,393

In the districts of Darrang, Nowgong, Sibságar, and Lakhimpur an increase took place in the extent to which resort was had to section 111 of the Act, while a decrease occurred in Cachar, Sylhet, and Kámrúp. In the case of section 112 a decrease occurred in Cachar, Sylhet, Nowgong, and Lakhimpur, and an increase in Darrang and Sibságar. These results will be discussed more fully in the following paragraph.

Details of local contracts.

21. The following table gives details of local contracts, the classes of labourers who entered into them and the terms of the contracts, those executed at Dhubri being excluded.

District.	Section 111.	Section 112.	Class of labourers.				Number of years.							
			New.	Time expired.	Old Act coolies transferred.	Local.	Under one year.	1	2	Under two and a half years.	3	4	Under five years.	5
Cachar	696	63	365	389	...	5	...	207	153	2	369	...	...	28
Sylhet	1,770	...	1,675	95	...	...	...	94	57†	...	1,619‡	...	...	...
Kámrúp	3	1	...	...	...	4	...	3	...	...	1	...	...	...
Darrang	3,344	141	79	2,257	...	1,049	66	1,482	764	...	* 817	27	...	329
Nowgong ...	127	20	10	113	12	12	...	97§	11‖	...	31	...	...	8
Sibságar	8,560	392	1,619	6,145	...	1,188	270	2,630	2,670	23	2,990	129	66	174
Lakhimpur ...	2,375	81	36	2,387	...	33	5	1,554	490	...	138	51	...	218
Total	16,875*	698	3,784	11,386	12	2,291	341	6,067	4,145	25	5,965	207	66	757
Total for 1889 ...	17,660	574	6,595	9,651	39	1,944	241	5,814	3,550	67	7,558	71	85	948

* The difference between this entry and that in column 3 of the table in paragraph 20 showing nationality of labourers entering into local contracts and in column 6 of the statement at the end of the report is in the case of Sibságar, and is attributed to the fact that 160 contracts executed towards the end of the year were omitted by the managers from their returns.

† This includes 2 contracts for 1½ years.

‡ Ditto 28 contracts under 3 years.

§ Ditto 2 ditto 1½ „

‖ Ditto 2 for 2½ years.

There was a very considerable decrease in the number of contracts executed under section 111 in Cachar (from 1,448 to 696), Sylhet (from 4,165 to 1,770), while a more or less considerable increase took place in Darrang (from 3,064 to 3,334), Nowgong (from 50 to 127), Sibságar (from 7,336 to 8,560), and in Lakhimpur (from 1,588 to 2,375). On the other hand, as regards contracts executed before the Inspector under section 112 of the Act, a decrease occurred in Cachar (from 119 to 63), Sylhet (from 57 to *nil*), Nowgong (from 31 to 20), and Lakhimpur (from 100 to 81), while an increase is shown in Darrang (from 90 to 141) and Sibságar (from 177 to 392).

In the case of Cachar the explanation given is the reduced importation during the year and the increased resort to Act XIII of 1859, especially in the case of time-expired labourers. A similar explanation is given by the Deputy Commissioner of Sylhet. No explanation is offered by the Deputy Commissioner of Darrang, who had only been in charge of the district a short time before the preparation of the annual report. The Deputy Commissioner of Nowgong writes as regards the increased resort to section 111—

"The increase I think is due to the preference shown by managers for securing at little or no expense labourers under these local contracts who are seasoned and acclimatized, and therefore more desirable acquisitions than newly imported and previously unknown and unacclimatized people brought up under contract from below under heavy pecuniary cost. Sections 111 and 112 of Act I of 1882 are moreover apparently gradually ousting Act XIII of 1859, which formerly was more in vogue."

No explanation is given of the Sibságar figures. The Deputy Commissioner of Lakhimpur attributes the increase under section 111 contracts to the fact that some large gardens which in previous years renewed contracts under Act XIII of 1859 now use in preference section 111 of Act I of 1882.

As regards the class of labourers who entered into local contracts, the considerable increase which took place under the head of time-expired coolies (from 9,651 to 11,386) is noteworthy, and probably points to the extended use of section 111 in these cases. On the other hand, it is satisfactory to notice that the number of local labourers who entered into contracts under Act I of 1882 increased from 1,944 in the preceding year to 2,291.

Under the head of the duration of the contracts entered into it is only natural to find that, owing to the smaller number of new importations during the year, long-term contracts should have decreased and contracts for short terms should have increased. The figures for long-term contracts (that is for contracts from three to five years) show a considerable decrease except in the cases of contracts for four years, the increase under which head is mainly due to 129 such contracts having been executed in the district of Sibságar.

22. The following table shows the extent to which contracts executed locally have been verified during the year:

Verification of contracts.

1	2				3	4	5	6
District.	Number and year of contracts under section 111 (excluding those executed at Dhubri) remaining unverified at beginning of year under report.				Number of contracts executed during the year under section 111.	Total of columns 2 and 3.	Number of such contracts executed after the last inspection where garden has been inspected during the year under report	Total number of contracts for verification (column 4 minus column 5).
	1887.	1888.	1889	Total.				
Cachar	....	51	684	735	696	1,431	333	1,098
Sylhet	6	91	699	796	1,770	2,496	572	1,924
Kámrúp	....	....	2	2	3	5	....	5
Darrang	....	....	552	552	2,344	2,896	1,165	2,731
Nowgong	....	....	21	21	127	148	9	139
Sibságar	....	684	1,815	2,499	8,560	11,059	2,860	8,199
Lakhimpur..	....	....	234	234	2,375	2,609	940	1,669
Total	6	756	4,007	4,769	16,875*	21,644	5,884	15,760
Total for 1889	368*	5,450	....	5,818	17,660	23,478	3,908	19,570

7											8	9	10	11			
District.	Number and year of contract.										Total (of totals under column 7).	Percentage of all contracts verified or cancelled (total of column 8 on total of column 6).	Percentage of contracts of year under report, verified or cancelled (total of sub-columns for year under report in column 7 on total of column 3 minus column 5).	Remained unverified for			
	(a) Verified.					(b) Cancelled.								Expiry of the term of contract.	Death or desertion of the labourer.	Absence of the labourer on the date of inspection on recruiting work or for sickness, &c.	Total.
	1887.	1888.	1889	1890.	Total.	1887.	1888.	1889.	1890.	Total.							
Cachar	..	43	565	321	929	..	..	2	1	3	932	85·2	89·9	5	64	70	139
Sylhet	1	16	640	1,113	1,770	..	..	7	12	19	1,789	92·9	93·9	8	70	53	131
Kámrúp	..	..	1	3	4	..	..	..	..	..	4	80·0	100·0	1	..	....	1
Darrang	..	..	194	1,782	1,976	..	..	..	..	..	1,976	72·3	81·7	318	14	103	435
Nowgong	..	..	21	113	134	..	..	..	..	..	134	90·4	95·7	..	4	....	4
Sibságar	..	106	823	4,385	5,314	..	..	2	..	2	5,316	64·8	76·9	912	224	1,549	2,685
Lakhimpur	..	..	147	1,322	1,469	..	..	..	..	..	1,469	88·0	92·0	..	34	86	120
Total	1	165	2,391	9,039	11,596	..	..	11	13	24	11,620	73·7	82·3	1,244	410	1,861	3,515
Total for 1889 ..	394†	3,712	12,285	..	16,351	15	28	113	..	156	16,407	83·8	89·7	..	..	....	..

* See explanation at foot of statement showing details of local contracts.
† These figures include the figures of 1886 (82 and 67) respectively.

The results shown in this table cannot be regarded as satisfactory, the Provincial percentages shown in columns 9 and 10 having fallen from 83·8 and 89·7 in the preceding year to 73·7 and 82·3 respectively; but the Chief Commissioner is aware that allowance must be made on the present occasion for the extent to which the work of verifying contracts was impeded by the performance of duties in connection with the census. In spite of this fact however more should have been done in the districts of Darrang and Sibságar, which show especially bad results. The Deputy Commissioners of these districts will be required to submit periodical reports to the Commissioner, who should satisfy himself that proper progress is being made with the work. The Deputy Commissioner of Lakhimpur writes—

"Many of the contracts that remained unverified at the end of the year have been verified since the close of the year."

23. The subjoined table shows the number of contracts which expired by lapse of time, the number of such contracts reported by managers, and the number of contracts cancelled or which terminated in other ways :

Expiry and cancelment of contracts.

District.	Number shown in garden returns as time-expired.	Number of time-expired contracts reported under section 141.	Number cancelled by Inspector under section 111.	Number suspended by Inspector for temporary unfitness, section 120.	Number cancelled by Inspector for permanent incapacity, section 122.	Number made void by committee by reason of unfitness of estate, section 123.	Number cancelled by Magistrate under section 140.	Number redeemed under section 142.	Number dissolved by mutual consent.
Cachar	2,934	2,872	11	.....	25	1	.....	5	4
Sylhet	1,854	1,834	2	.....	51	.....	.....	.....	2
Kámrúp	16	13	.....	.....	1	.....	.....	.. ...	3
Darrang	2,335	2,335	.....	16	8	.....	55	.....	11
Nowgong	281	221	.....	.....	5	... ..	.....	.....	6
Sibságar	9,141	6,027	2	.....	85	.....	.....	9	35
Lakhimpur	3,943	3,886	.....	.....	145	.....	.....	3	12
Total of 1890	20,504	17,188	15	16	320	1	55	17	73
„ „ 1889	23,461	20,928	29	44	512	3	1	19	232

Managers were not so careful as in the preceding year to comply with the requirements of section 141 of the Act, and the results were especially bad in Sibságar, the Deputy Commissioner of which district has been compelled to call on the defaulting managers to show cause why they should not be prosecuted under section 185 of Act I of 1882. Nowgong shows considerable improvement in this respect.

The figures in the remaining columns of the statement do not call for any detailed remarks. The proceedings of the subdivisional officer of Mangaldai in the Darrang district in cancelling under section 120 of the Act 16 contracts in the case of certain coolies who alleged that they had been brought to Assam against their wishes were clearly irregular, as the section in question relates only to the suspension of contracts owing to temporary unfitness. In regard to cancelments under section 122, the Deputy Commissioner of Darrang remarks that "his predecessor refused to cancel under this section unless the coolies were really permanently unfitted to work." This remark is not understood, in so far as it implies that the procedure referred to was incorrect. The Deputy Commissioner of Nowgong states that contracts are not cancelled under section 122, unless they are accompanied by medical certificates to the effect that the coolies concerned are really permanently incapacitated for further work, *and further that they are in a fit state of health to undertake the journey to their homes.* The meaning of the words italicized is not understood, but it is obvious that the intention of the law must be defeated if any such condition is insisted upon. The Deputy Commissioner will be called upon for an explanation. The 55 contracts cancelled under section 140 in the Darrang district related to certain coolies on the Horabari and Katahi gardens, whose wages were found by the subdivisional officer, Mangaldai, to be in arrear for more than four months. The Commissioner has raised the question whether contracts dissolved with a view to renewal should be entered in the statement at all. This matter will be separately considered by the Chief Commissioner.

24. The Deputy Commissioner of Cachar reports that no case occurred under the second paragraph of section 121 of Act I of 1882, which is practically a dead letter. As regards section 170, Mr. Clark observes—

The extent to which the second paragraph of section 121 and section 170 of Act I of 1882 are acted upon.

"Fifteen managers sent in lists of absentees, three of whom withdrew their lists at the time of enquiry, and in none of the remaining 12 gardens was the Inspector ever asked to endorse the absent days on the contracts—a proceeding seemingly not liked by the managers, as it may give rise to discontent among the coolies."

In Sylhet neither of the sections was acted upon, and a similar remark applies to Kámrúp. In Darrang the second paragraph of section 121 has not been acted upon, but 11 gardens submitted lists of absentees under section 170. In these cases, however, the managers concerned did not ask to have the days of absence endorsed on the contracts. The Deputy Commissioner of Nowgong remarks as regards section 121 that the managers in that district are all loath to bear hardly on their coolies by getting days of absence endorsed on their contracts. As regards section 170, Major Gray observes—

"Only from four gardens lists of *khatia* days are sent in regularly. At the time of inspection these *khatia* days, after the necessary enquiries, are endorsed on the agreements. It is difficult however to convey any adequate idea as to how formidable an addition to the work of inspection the provisions of section 170 entail. One garden, Amlukhi, sends in monthly lists of nearly 400 names,

It can perhaps be conjectured what a number of *khatia* coolies this aggregates from the time of one inspection to that of the next. It simply means that one inspection officer has to settle down to several days' exclusive devotion to this one work alone. I think when the Act was framed that it was never anticipated what an amount of time and labour the provisions of section 170 would entail."

With regard to this the Commissioner observes :—

"I have on former occasions pointed out that section 170, if made use of generally, would overwhelm our inspection staff."

In Lakhimpur the Deputy Commissioner reports that the planters do not insist on the endorsement of days of absence on the contracts, although some of them send in lists of absentees. In regard to this matter the Chief Commissioner has nothing to add to the remarks made in paragraph 108 of the special report.

Repatriation of labourers.

25. Of the 25 coolies whose contracts were cancelled on the ground of permanent unfitness in Cachar, 2 died after cancelment of their contract, 11 went with their relatives to their homes, and the rest remained in the district with their friends. All these coolies were awarded the full three months' wages allowed by the Act. Of the coolies whose contracts were cancelled under section 122 in Sylhet, 33 remained on the gardens with relatives, and 18 were sent to their homes with their children, a sum of Rs. 92-15-3 having been paid from Provincial funds for their repatriation in addition to three months' wages. In Kámrúp the one coolie whose contract was cancelled under section 122 received compensation, and was repatriated. In Darrang all the 8 coolies whose contracts were cancelled under section 122 were sent to their homes, the full three months' wages being paid. Of the 5 coolies whose contracts were cancelled on the ground of permanent unfitness in Nowgong, 4 were sent to their homes with three months' wages and one remained on the garden. Of the 85 coolies whose contracts were cancelled in Sibságar under section 122, 59 were sent back to their homes with three months' wages, 24 remained in the district, and the remaining 2 died. Seven coolie women and a boy (free labourers) were also repatriated from Sibságar. In Lakhimpur, of the 145 coolies whose contracts were cancelled under section 126, 97 were sent back to their homes with three months' wages, the difference of Rs. 334-4-3 between this amount and the actual expenses being borne by public funds. Thirteen coolies arrived in the station in a moribund condition, and died in the charitable dispensary. The remaining 27 coolies preferred to remain on the gardens. As regards the circumstances under which the contracts of 13 coolies described as being in a moribund condition were dissolved, the Deputy Commissioner writes—

"The 13 coolies who died in the charitable dispensary after their agreements were cancelled under section 122 belonged to the Assam Railway and Trading Company's collieries. They were unfit to travel when their agreements determined, and they were kept in the hospital for treatment, where they died subsequently. In some cases the coolies died within two to three days of their arrival at the station."

Wages.

26. The following two statements give particulars of the wages earned by Act labourers and non-Act coolies, including children, in each subdivision. They are based on figures obtained during inspections of gardens. In the second table the average and highest wages are given both in the manufacturing and the non-manufacturing seasons.

			Monthly wages.	
			Average.	Highest.
			Rs. a. p.	Rs. a. p.
Cachar (181) ...	Act ...	Men ...	4 8 6	8 4 5
		Women ...	3 0 3	7 0 1
	Non-Act	Men ...	4 13 1	8 14 6
		Women ...	3 8 1	7 7 2
		Children ...	1 11 9	4 1 10
North Sylhet (28)	Act	Men ...	3 14 10	5 10 1
		Women ...	2 15 6	4 8 5
	Non-Act	Men ...	4 5 7	7 1 6
		Women ...	3 5 3	5 5 2
		Children ...	2 2 6	3 13 8
South Sylhet (48)	Act	Men ...	6 10 7	10 6 0
		Women ...	5 1 5	10 2 0
	Non-Act	Men ...	5 11 3	12 0 0
		Women ...	7 7 4	15 8 3
		Children ...	4 5 0	8 12 3
Karimganj (31)...	Act	Men ...	3 12 1	6 10 4
		Women ...	2 15 5	4 2 5
	Non-Act	Men ...	3 11 10	7 15 9
		Women ...	3 4 4	6 9 11
		Children ...	1 12 11	4 8 4
Habiganj (8) ...	Act	Men ...	4 3 1	7 12 7
		Women ...	2 13 8	7 11 7
	Non-Act	Men ...	4 8 5	9 3 0
		Women ...	3 8 4	16 3 0
		Children ...	1 9 9	6 13 2

			Monthly wages.	
			Average.	Highest.
			Rs. a. p.	*Rs. a. p.*
Kámrúp	Act	Men	3 15 2	6 14 9
		Women	2 12 3	5 14 6
	Non-Act	Men	3 8 6	7 14 3
		Women	2 15 3	7 13 6
		Children	1 15 9	4 12 2
Darrang (32)	Act	Men	5 8 8	7 0 0
		Women	4 4 5	7 6 6
	Non-Act	Men	4 9 2	7 0 0
		Women	3 10 0	8 10 3
		Children	2 9 0	5 9 0
Nowgong	Act	Men	4 13 5	8 0 0
		Women	3 15 6	5 0 0
	Non-Act	Men	5 10 3	12 0 0
		Women	4 11 11	6 0 0
		Children	2 11 9	5 0 0
Sibságar (96)	Act	Men	4 14 4	15 4 0
		Women	3 11 2	8 14 0
	Non-Act	Men	4 14 8	18 0 0
		Women	3 7 6	11 4 6
		Children	2 5 9	5 14 2
Lakhimpur (87)	Act	Men	5 4 4	13 1 6
		Women	4 1 1	14 0 0
	Non-Act	Men	5 1 4	15 0 0
		Women	5 13 10	14 8 6
		Children	2 15 5	7 2 0

			Non-manufacturing or cold season monthly wages.		Manufacturing or rainy season monthly wages.	
			Average.	Highest.	Average.	Highest.
			Rs. a. p.	*Rs. a. p.*	*Rs. a. p.*	*Rs. a. p.*
Cachar (181)	Act	Men	4 1 6	6 11 6	4 13 7	9 6 10
		Women	2 12 9	5 9 0	3 7 9	7 15 7
	Non-Act	Men	4 12 8	7 14 3	5 8 5	11 7 8
		Women	3 4 2	6 2 9	4 3 1	9 2 0
		Children	1 3 9	3 10 8	2 4 3	5 6 4
North Sylhet (28)	Act	Men	4 1 7	5 8 5	3 12 2	5 11 10
		Women	2 15 5	4 1 9	2 15 8	4 15 2
	Non-Act	Men	4 5 4	6 9 8	4 5 11	7 9 5
		Women	3 1 7	4 9 7	3 8 11	6 0 11
		Children	2 0 1	3 8 4	2 5 0	4 3 1
South Sylhet (48)	Act	Men	3 15 5	5 8 0	4 2 9	7 8 7
		Women	3 2 6	4 15 0	3 5 4	5 10 2
	Non-Act	Men	4 8 11	5 12 10	4 11 6	5 15 9
		Women	3 6 0	4 15 0	3 13 5	5 2 0
		Children	1 10 11	3 3 10	1 13 5	4 0 0
Karimganj (13)	Act	Men	3 12 9	7 0 6	3 11 5	6 4 3
		Women	3 1 5	3 12 9	2 12 6	4 8 1
	Non-Act	Men	3 14 3	7 5 11	3 9 5	8 9 8
		Women	3 5 2	5 13 5	3 3 5	7 6 6
		Children	1 11 5	4 4 3	1 14 6	4 12 5
Habiganj	Act	Men	No information.			
		Women				
	Non-Act	Men				
		Women				
		Children				
Kámrúp (15)	Act	Men	3 10 1	4 15 11	4 3 11	6 10 4
		Women	2 11 0	4 2 0	3 4 8	5 13 9
	Non-Act	Men	3 5 6	6 1 9	4 6 4	7 12 4
		Women	2 14 0	4 11 10	4 5 4	7 7 5
		Children	1 13 1	3 8 0	2 8 6	4 5 6
Darrang (47)	Act	Men	4 1 8	6 5 0	5 5 0	7 0 0
		Women	3 7 10	5 9 6	4 1 10	7 6 6
	Non-Act	Men	4 12 0	6 0 0	5 7 11	10 12 0
		Women	3 1 10	4 0 0	4 3 9	8 10 3
		Children	2 4 7	3 0 0	2 11 0	5 9 0
Nowgong	Act	Men	4 3 10	8 0 0	5 7 1	12 0 0
		Women	3 3 0	5 0 0	4 12 1	14 9 0
	Non-Act	Men	5 2 2	12 0 0	6 2 4	15 8 0
		Women	3 12 11	6 0 0	5 10 11	14 12 0
		Children	2 3 2	5 0 0	3 4 5	7 2 3
Sibságar (96)	Act	Men	4 8 10	15 0 0	5 3 11	15 8 0
		Women	3 4 8	7 6 3	4 1 8	10 5 9
	Non-Act	Men	4 3 5	16 0 0	5 9 0	20 0 0
		Women	3 1 11	6 10 0	3 13 0	15 14 0
		Children	2 3 8	5 12 0	2 7 10	6 0 3
Lakhimpur (87)	Act	Men	4 14 0	12 9 3	5 10 5	13 1 6
		Women	3 10 10	8 0 0	4 7 4	14 0 0
	Non-Act	Men	3 10 8	15 0 0	6 8 1	15 0 0
		Women	4 13 10	12 0 0	5 8 9	14 8 6
		Children	2 13 1	6 0 0	3 1 9	7 2 0

CHAPTER IV.

OFFENCES INCLUDING DESERTIONS.

Offences committed by tea garden population.

27. The following figures show the offences committed by the tea garden population during each of the past two years under Act XIII of 1859 and Act I of 1882 respectively (excluding the offence of desertion, which is separately dealt with):

District.	Act XIII of 1859.		Act I of 1882.																						Total.	
			Section 151, garden sardar failing to report himself.		Section 153, garden sardar failing to comply with instructions endorsed on way-bills.		Section 163, employers refusing or omitting to keep registers, &c.		Section 164, employers or other persons obstructing inspection under section 114.		Section 168, employers neglecting to provide hospital accommodation.		Section 171, labourers absent without cause.		Section 172, not taking deserters to police station.		Section 176, employer arresting labourer without sufficient cause.		Section 178, labourer guilty of habitual drunkenness or wilful disregard of sanitary regulations.		Section 183, enticing away, harbouring, or employing labourer under contract.		Section 185, employer refusing to endorse labour contract &c.			
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Cachar	71	58	2	..	5	..	22	7	..	..	1	1	2	..	..	..	..	..	..	..	4	7	..	1*	36	16
Sylhet	5	23	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	4	8	..	..	5	9
Kámrup	11	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Darrang	5	10	6	7	..	..	..	..	1	..	..	..	28	8	..	1	..	..	1	..	3	4	..	..	39	20
Nowgong	13	6	..	..	..	..	..	..	..	..	..	..	1	10	..	..	..	..	..	..	3	3	..	..	4	13
Sibságar	9	55	3	6	..	..	..	..	..	..	..	..	11	13	..	..	..	..	4	1	9	14	..	..	27	34
Lakhimpur	5	17	1	7	..	..	2	1†	..	..	..	..	1	3	.	..	..	..	..	2	3	10	..	..	7	23
Total	119	174	12	20	6	..	24	9	1	..	1	1	43	34	..	1	..	..	5	3	26	47	..	1	118	116

* Under section 167 of the Act. | † Under section 162 of the Act.

The above figures show that while offences under Act XIII of 1859 have increased during the year under report (from 119 in the preceding year to 174), offences under Act I of 1882 have decreased very slightly. As regards Act XIII of 1859, the decrease which took place in Cachar is not explained, and is probably merely due to ordinary fluctuations. Of the 23 coolies convicted in Sylhet, 15 were sentenced to one month's rigorous imprisonment on refusal to fulfil their contracts, one was ordered to pay Rs. 10 to the manager, and the rest were ordered to perform their contracts. In Kámrúp three of the five coolies convicted were directed to work out their contracts, and two were discharged. The ten coolies convicted in Darrang were all sent back to the gardens to fulfil their contracts. In Nowgong all of the six coolies convicted were ordered to fulfil their agreements. The Deputy Commissioner of Sibságar explains that the increase in convictions under Act XIII of 1859 (from 9 to 55) occurred chiefly in the Golághát subdivision. Of the 55 persons convicted in this district, 48 were directed to fulfil their contracts, one was rigorously imprisoned for two months, two for one month, and three for 14 days, for not carrying out the previous order of the court, and one was ordered to refund his advance. In Lakhimpur, 13 of the 17 coolies convicted were ordered back to the gardens to fulfil their contracts, three were directed to give security for the performance of their agreements, and one was ordered to return the money advanced to him.

As regards offences under Act I. of 1882, the figures do not call for any detailed remarks, and it seems scarcely necessary to mention the punishments inflicted in each case. None of the cases possessed any special interest, and in no case does the punishment inflicted appear to have been unduly severe.

The following statement shows the offences against the general criminal law committed during each of the past two years by the population of the tea-gardens :

District.	Penal Code.																				
	Adultery.	Unlawful assembly and affray.	Rioting.	Culpable homicide or attempt to commit ditto.	Murder.	Attempt to commit suicide.	Assault.	Causing hurt.	Grievous hurt.	Theft.	Criminal trespass.	Lurking house trespass.	House trespass.	House-breaking.	Dishonest misappropriation.	Dishonestly receiving stolen property.	Criminal intimidation.	Cheating.	Mischief.	Kidnapping.	Criminal breach of trust.	Laying false complaint.
Cachar	..	36	12	1	..	1	20	14	4	27	1	..	..	..	1	26	..	..	..	..	..	1
Sylhet	..	18	6	1	..	..	14	2	..	5	1	..	..	1	..	2	..	..	..	..	..	..
Kámrúp	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Darrang	..	6	7	..	..	..	1	2	2	5	..	7	..	..	..	1	..	1	3	..	1	..
Nowgong	..	29	..	..	..	1	..	2	1	7	..	1	1	..	..	1	..	1	..	..	..	..
Sibságar	..	11	5	4*	4	5	8	7	2	39	1	2	2	8	2	6	..	..	..	..	4	1
Lakhimpur ..	..	..	6	..	2	1	12	..	4	34	..	10	7	..	..	4	..	..	..	1	1	4
Total of 1890 ..	..	71	65	6	6	9	55	27	20	118	3	20	10	9	3	39	..	2	3	1	6	6
Total of 1889 ..	1	46	44	2	..	9	36	27	14	88	9	10	3	3	1	14	4	1	9	8†	7	7

District.	Penal Code—*concluded.*																				
	Giving false evidence.	Counterfeit coin.	Unnatural offences.	Insult.	Wrongful confinement.	Offences against public tranquillity.	Contempt of lawful authority.	Escaping from lawful custody.	Dealing with fire, &c., so as to endanger human life, section 285.	Rape.	Defamation, section 500.	Negligent act likely to spread infection.	Causing death by rash act.	Offering bribe.	Enticing away a married woman.	Exposure of child, &c., section 317.	Public nuisance, section 290.	Total.	Act V of 1861.	Offences under other Acts.	Grand total of all offences.
Cachar ..	..	..	..	..	..	..	1	..	1	..	1	..	2	..	1	..	..	150	55	3	208
Sylhet ..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	52	..	11	63
Kámrúp ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2
Darrang ..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	39	1	1	41
Nowgong ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	44	..	..	44
Sibságar ..	1	1	..	2	1	..	..	1	..	1	..	..	1	..	..	..	..	125	3	3	131
Lakhimpur ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	87	1	26	114
Total of 1890 ..	1	2	1	2	1	..	2	3	1	1	1	..	4	..	1	..	.	499	60	44	603
Total of 1889 ..	..	6	..	..	6	2	..	2	..	..	..	2	1	1	2	1	1	367	38	153	558

* This includes one case for screening the above offence. † Obstructing public servant.

This table shows an increase of criminality in the case of the districts of Cachar, Nowgong, and Sibságar, and a decrease in Sylhet, Kámrúp, Darrang, and Lakhimpur. The chief heads under which increase occurred were "Unlawful assembly and affray" (from 46 to 71 cases), "Rioting" (from 44 to 65 cases), "Assault" (from 36 to 55 cases), "Theft" (from 88 to 118 cases), and "Dishonestly receiving stolen property" (from 14 to 39 cases). Offences under Act V of 1861 also increased from 38 in the preceding year to 60. In Cachar it is explained that the 55 offences committed under Act V of 1861 were mostly cases of drunkenness and violation of municipal bye-laws, in the majority of which the accused were punished with small fines. As regards offences under the Penal Code, the increase was chiefly due to offences connected with rioting, assault, causing hurt, theft, and dishonestly receiving stolen property. In Sylhet an increase occurred in offences under the heads of "Unlawful assembly and affray" and "Assault."

In Darrang there was a marked falling off in cases of rioting and theft, while in Nowgong the increase was mainly due to cases of rioting and theft, and in Sibságar to cases of "unlawful assembly" and affray and "theft." The four cases of murder which occurred in the Sibságar district do not call for special remark. In Lakhimpur the increase of cases under the Penal Code (from 63 to 87) is chiefly caused by more cases under the heads of "Theft" and "Lurking house trespass." Offences under "Other Acts" in this district fell from 126 in the preceding year to 26, the decrease being due to the fact that in 1889 an exceptionally large number of cases occurred under the excise and gambling Acts. In one of the two murder cases, which occurred in the Lakhimpur district, a non-Act coolie cut off the head of his wife with a *dao*, asserting that he had killed her by the order of the Maháráni. He was sentenced by the Court of Session to transportation for life. The other case of murder was of the ordinary type. In one case under section 211 of the Penal Code (false charge of offence) three coolies gave information to the police to the effect that a manager had murdered a coolie woman,

and volunteered to point out the place where the murdered woman was buried. Ultimately they admitted that the charge was a false one, and the woman was produced. The case was tried by the Deputy Commissioner, and the accused were sentenced one to 3 years' and two to 2 years' rigorous imprisonment.

In regard to the general increase shown under the heads of "Unlawful assembly" and "Rioting," attention is invited to Chapter VII of this report, where several cases which bear on the relations between employers and labourers are noticed.

The following table, which includes cases of desertion, compares the ratio of convictions to the tea garden population during the past two years :

District.	Mean adult garden population.		Number convicted of any offence.		Number sent to prison (Jail Report).		Ratio per centum of imprisonments to convictions.	
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Cachar	54,675	55,463	354	394	191	152	53	38
Sylhet	47,868	50,198	119	139	96	101	80	72
Kámrúp	2,010	2,038	19	22	7	19	36	86
Darrang	28,425	29,699	199	171	117	157	58	91
Nowgong	9,384	10,020	57	83	31	56	54	67
Sibságar	54,861	56,225	347	402	307	268	88	66
Lakhimpur	44,072	46,467	454	401	268	330	59	82
Total	241,297	250,113	1,549	1,612	1,017	1,083	65	67

There was thus but little difference between the provincial percentage of imprisonments to convictions during the two years, though the district percentages show considerable variations.

Provincial and district figures for desertions.

28. The following table shows the number of adult deserters, district by district, for the past two years :

District.	Total desertions among adults.		Act.		Non-Act.		Percentage of desertions on annual strength among					
							Act.		Non-Act.		Total adult population.	
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Cachar	2,598	2,973	740	600	1,858	2,373	6·88	6·58	4·23	5·12	4·75	5·35
Sylhet	3,194	3,004	824	635	2,370	2,369	8·48	6·72	6·18	5·80	6·65	5·98
Kámrúp	80	158	23	80	57	78	4·06	11·98	3·94	5·66	3·98	7·75
Darrang	912	1,259	535	585	377	674	3·22	3·21	3·14	5·84	3·20	4·24
Nowgong	481	370	152	142	329	228	5·77	4·58	4·85	3·30	5·12	3·69
Sibságar	1,547	1,524	852	789	695	735	2·57	2·27	3·19	3·42	2·81	2·71
Lakhimpur	1,715	1,479	1,159	1,051	556	428	4·75	4·00	2·79	2·11	3·89	3·18
Total	10,527	10,767	4,285	3,882	6,242	6,885	4·38	3·82	4·33	4·62	4·35	4·30

Here again while the provincial percentage of desertions corresponds closely with the figures for last year, the district percentages show considerable variations.

Arrests and convictions.

29. The following table shows the number of deserters in each district, the number of warrants issued for their arrest, and the number of convictions obtained :

District.	Number deserted (Act labourers).	Number of warrants issued.	Number arrested.					Number convicted.
			By warrant.	By manager.	By police.	By summons.	Total.	
Cachar	600	70	34	97	10	2	143	127
Sylhet	635	86	12	32	.....	.....	44	44
Kámrúp ...	80	12	12	.....	11	.....	23	16
Darrang ...	585	130	46	90	.....	3	139	122
Nowgong ...	142	18	1	19	.....	.....	20	20
Sibságar ...	789	142	45	89	66	5	205	182
Lakhimpur ...	1,051	128	143	121	.....	.....	264	247
Total for 1890 ...	3,882	586	293	448	87	10	838	758
„ 1889 ...	4,285	447	289	429	142	38	898	771

In the Resolution of the Revenue and Agricultural Department No. $\frac{167\text{-}189}{24\text{-}1}$ E., dated the 22nd January 1891, reviewing the Provincial Immigration Report for the year 1889, attention was called to the necessity for the exercise of care and discrimination in the infliction of sentences for desertion, and it was added that every magistrate should make special enquiries as to the healthiness or unhealthiness of the gardens from which desertions take place. These instructions were circulated on the 4th March 1891 to Deputy Commissioners, who were requested to give detailed information in the annual immigration report regarding the punishments inflicted in each case of desertion. Notwithstanding these instructions, the necessary information has not in all cases been supplied. In the case of Cachar, the Deputy Commissioner writes—

"None of the persons convicted for desertion belonged to unhealthy gardens. The punishments inflicted on deserters were not unduly severe. Of the 127 persons convicted for desertion, 35 were imprisoned for one week, 29 for two weeks, 57 for one day, and 6 for one month. Of these six offenders, one was guilty of the offence a second time. They all were old coolies, and were earning fairly good wages."

The Deputy Commissioner of Sylhet has furnished no information whatever under this head. In the case of Kámrúp no reference is made to the point how far desertions occurred from healthy or unhealthy gardens, while as regards the punishments inflicted, it is said that of the 16 persons convicted of desertion, 14 were sentenced to one month's rigorous imprisonment and 2 to two months' rigorous imprisonment. These sentences, in the absence of special circumstances, and if they were for first offences under section 175 of the Act, appear excessive, and the attention of the Deputy Commissioner will be called to the matter. The Deputy Commissioner of Darrang writes—

"Of the 122 persons convicted of desertion, 20 were sentenced to one week's rigorous imprisonment, 1 to ten days', 7 to three days', 55 to two weeks', 5 to three weeks', 29 to one month's, 1 to fifteen days', and 1 to five weeks' rigorous imprisonment; 1 was fined Rs. 7, and 2 sent back to garden to fulfil their contracts.

"The following statement gives the number of desertions among Act coolies from unhealthy gardens during the year 1890:

Tezpur ...	Barjuli	18
	Dolupadong	15
	Sadharughop	4
	Gellahating	21
	Ghogra	1
	Sonajuli	40
	Tarajuli	3
Mangaldai	Panbari	...
	Bhergaon	9
		111"

The Deputy Commissioner of Nowgong reports that of the five unhealthy gardens of 1890, the following had desertions:

Owguri	3 desertions.
Old Salona	6 „
Ramsing grant	4 „

As regards the punishments inflicted in the case of the 20 coolies who were convicted of desertions, Major Gray writes—

"Of these, only 20 were arrested and convicted. The number arrested by managers has increased Of the 20 coolies convicted, two stated in their defence that they left their gardens under the advice of old coolies, who informed them that if they could not do the full quantum of work they would be whipped. Being unaccustomed to the sort of work they had to do on the garden, they were unable to do the usual full task, and accordingly deserted through fear of punishment.

"They were newly-imported coolies, and one of them had arrived on the garden only about a month before desertion, and said that he was not accustomed to do hoeing, as he was a shopkeeper in his ordinary vocation.

"These two coolies were convicted, and sentenced to two weeks' rigorous imprisonment. Besides these two, there were five others who, though they had no excuse in particular to offer for having run away, were newly-arrived coolies, who probably disliked their prospects. They also were convicted: four were sentenced to two weeks' rigorous imprisonment, and one to seven days' simple imprisonment.

"The following punishments were awarded to the rest of the deserter coolies:

Eight were sentenced to two weeks' rigorous imprisonment.
Two to one month's rigorous imprisonment.
One to three weeks' simple „
One to fourteen days' „ „
One to two weeks' rigorous imprisonment, but afterwards, at the manager's request, the order was cancelled, and the coolie was ordered to be made over again to the manager."

The Deputy Commissioner of Sibságar deals fully with the matter, and reports as follows :

" The total number of convictions for desertion under section 175 was 182, against 206 in the previous year, which is satisfactory. Of the 182 convictions, 5 persons, who had been previously convicted, were rigorously imprisoned for two months, 73 for one month, one for 21 days, 8 for 15 days, 47 for 14 days, 2 for ten days, 34 for seven days, and 2 for five days each ; 9 persons were sentenced to simple imprisonment for one day. One person was fined Rs. 15. The reason given for desertion in this case was that he left the garden to go to the Inspector of Labourers to apply for redemption of his contract, but he never took permission from the manager. The man afterwards redeemed his contract by paying Rs. 100. The Magistrate was of opinion that the coolie ought to have returned to the garden after filing his application, instead of which he was absent for two months. The punishment, however, seems to have been rather more severe than the circumstances of the case demanded. I have drawn the Magistrate's attention to this.

" In one case of desertion from Wokha garden, which is in the unhealthy list, a gang of 26 Kachari coolies absconded from the garden, taking with them everything they possessed. Mr. Robertson, the manager, followed after them, and tried to persuade them to return, but in vain. They were apprehended by the police, and on conviction before the Magistrate of Golághát, they were sentenced to seven days' rigorous imprisonment each. The reason given by them was that they were in arrears of pay. The Magistrate on enquiry found that they were in one and a half month's arrears. In another case of desertion from Dhansiri garden, which is also unhealthy, the accused stated as his reason for desertion that some Bengali coolies died of cholera, and he thought that he might die himself, as he was ill of dysentery. The man was punished with 14 days' rigorous imprisonment.

" Similarly, five persons, who absconded from the Rajabari garden in the sadr through fear of cholera, were imprisoned for one month each ; the garden is unhealthy. In this case the Magistrate found that every care was being taken of the coolies, and these coolies, whose agreements had two years to run, had the intention of absconding altogether, and not for a few days.

" I am of opinion that Magistrates have been generally very careful to take into consideration extenuating pleas in each case, such as unhealthiness of the locality, the character of the employer, &c. In some cases the accused have been held guilty ; but taking into consideration the character of the garden, the punishment inflicted has been nominal."

The Deputy Commissioner of Lakhimpur gives the following table showing the names of gardens which had a desertion rate of more than 4 per cent. in 1890 :

Name of garden.	Number of desertions in 1890.	Percentage of desertions.
1. Rahmaria Balijan	12	4·42
2. Scalkati	26	7·10
3. Lahwal	14	6·25
4. Bokul	44	16·70
5. Romari	43	8·81
6. Hilika	98	9·46
7. Hukanguri	174	21·78
8. Mesaijan	24	4·48
9. Samdang	56	19·59
10. Sookerating	23	5·08
11. Greenwood	19	6·80
12. Chota Hapjan	31	10·73
13. Deohal	7	8·04
14. Hatiali	12	13·85
15. Hukanpukri	19	8·01

Hukanguri was the worst in this respect with 21·78 per cent. Samdang comes next with 19·59 per cent. Of the 15 gardens in the list, 10 show a desertion rate of more than 7 per cent., and of these 10, 3, *viz.*, Hukanguri, Samdang, and Hatiali, were in the unhealthy list of 1890. Bokul shows a high rate of desertion, *viz.*, 16·70 per cent., but this garden has always been a healthy one. Greenwood, Chota Hapjan, Hilika, and Scalkati were in the black list for 1889.

The Deputy Commissioner of Lakhimpur writes :

" The following table shows the punishment awarded in each case :

5	persons	imprisoned	for	...	...	...	...	...	2	months each.
1	person	"	"	...	...	...	...	...	6	weeks.
105	persons	"	"	...	...	...	...	...	1	month each.
34	"	"	"	...	...	...	...	...	21	days each.
2	"	"	"	...	...	...	...	...	20	ditto.
42	"	"	"	...	...	...	...	...	15	ditto.
20	"	"	"	...	...	...	...	...	14	ditto.
3	"	"	"	...	...	...	...	...	10	ditto.
9	"	"	"	...	...	...	...	...	7	ditto.
6	"	"	"	...	...	...	...	...	3	ditto.
7	"	"	"	...	...	..	...	...	2	ditto.
13	"	"	"	...	...	...	...	...	1	day each.
247										

" The above figures do not show the full number of prosecutions. In the case of one notorious garden, I had to order the police not to receive deserters unless witnesses were also sent with them to prosecute. In some cases, as no one appeared to prosecute, the coolies were simply sent back. There has been more discrimination in the award of punishments, although in the majority of cases the full penalty has been imposed."

The Commissioner, Assam Valley Districts, has called on the Deputy Commissioners for further particulars regarding the notorious garden referred to in the above extract, and the Chief Commissioner would be glad to see these when received.

Nationality and sex of deserters.

30. The nationality and sex of deserters are shown below :

Nationality.	Sex.	Number of deserters.				Total.		Percentage of desertions on annual strength among					
		Act.		Non-Act.				Act labourers.		Non-Act labourers.		Total.	
		1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Bengal	Men ..	412	427	629	846	1,041	1,273	4·32	4·76	3·29	4·31	3·21	2·05
	Women ..	223	209	535	634	757	843	2·50	2·49	2·89	3·82		
North-Western Provinces, Oudh, and Behar.	Men ..	750	609	1,550	1,454	2,300	2,063	9·50	8·26	8·13	7·36	7·20	6·59
	Women ..	819	284	918	996	1,237	1,280	5·54	4·26	5·59	5·75		
Chota Nagpur ..	Men ..	1,709	1,518	923	1,012	2,632	2,530	5·07	4·33	3·05	3·20	3·20	3·07
	Women ..	603	544	706	797	1,309	1,341	2·13	1·78	2·57	2·77		
Nepal	Men ..	....	1	9	17	9	18	....	3·12	7·11	13·94	6·66	9·0
	Women ..	3	....	5	5	8	5	27·27	....	5·84	6·29		
Madras	Men ..	28	36	40	49	68	124	7·50	6·4	5·07	4·62	4·30	4·23
	Women ..	3	26	22	40	25	66	·98	1·98	3·21	3·71		
Bombay	Men ..	....	....	4	4	4	4	.. .	....	3·15	3·04	2·95	2·16
	Women ..	....	....	4	2	4	2	....	....	3·05	1·53		
Assam	Men ..	214	213	761	948	975	1,161	9·50	8·81	8·15	11·58	7·98	9·49
	Women ..	21	16	136	81	157	97	2·72	2·01	7·53	4·31		
Orissa	Men ..	1	....	....	....	1	....	25·00	....	.....	.....	2·50	....
	Women ..	....	....	....	....	....	....	....	....	.....	.....		
Total	Men ..	3,114	2,853	3,916	4,330	7,030	7,183	5·79	5·19	4·96	5·38	5·30	5·29
	Women ..	1,171	1,029	2,326	2,555	3,497	3,584	2·66	2·22	3·57	3·74	3·21	3·12
Grand total	.....	4,285	3,882	6,242	6,885	10,527	10,767	4·38	3·82	4·33	4·62	4·35	4·30

The above figures do not call for remark.

CHAPTER V.

VITAL STATISTICS AND HEALTH OF GARDEN POPULATION.

Birth rate.

31. The following figures show the birth rate per mille during the past two years calculated on the mean strength of adult female labourers :

	1889.	1890.
Cachar	132·3	116·5
Sylhet	106·3	91·9
Kámrúp	87·4	110·9
Darrang	77·6	52·0
Nowgong	95·7	81·4
Sibságar	96·6	89·3
Lakhimpur	92·3	79·3
Total	103·9	89·8

The attention of the Deputy Commissioner of Darrang will be drawn to the figures for that district, which point to very defective registration.

Birth rate according to nationality.

32. The following table distributes the births among the different nationalities, and strikes the ratio on the mean strength of adult female labourers :

District.	Bengal.			North-Western Provinces, Oudh, and Behar.			Chota Nagpur.			Nepal.		
	Annual strength of women employed under Act I or otherwise.	Births.	Birth-rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth-rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.
Cachar	9,756	1,058	108·4	7,357	1,080	146·7	7,473	778	104·1	56	1	17·8
Sylhet	6,171	465	75·2	10,060	1,955	104·6	6,748	628	93·0	6	1	166·6
Kámrúp	407	41	100·7	8	1	125·0	488	61	125·0	4	....	....
Darrang	2,614	117	44·7	1,122	56	49·9	7,258	372	51·2	18	3	166·6
Nowgong	587	90	153·3	166	18	108·4	2,867	193	64·7	2	....	....
Sibságar	5,292	377	71·2	3,035	261	85·9	17,001	1,540	90·4	11	....	....
Lakhimpur	2,558	123	48·0	1,030	56	53·3	17,306	1,401	84·9	1	....	....
Total of 1890	27,387	2,271	82·9	22,779	2,524	110·8	59,142	5,132	86·7	100	5	50·0
1889	27,312	2,548	93·2	22,100	2,683	121·4	55,563	5,789	104·1	99	6	60·6

District.	Madras.			Bombay.			Assam.			Orissa.			Total.		
	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.	Annual strength of women employed under Act I or otherwise.	Births.	Birth rate per mille.
Cachar	299	7	23·4	127	3	23·6	61	2	33·7	..	..	..	25,184	2,939	116·9
Sylhet	1,513	94	62·1	6	..	..	19	13	684·2	42	4	95·2	24,566	2,268	91·5
Kámrúp	12	..	..	..	..	..	63	6	95·2	..	..	....	982	109	110·9
Darrang	120	4	33·3	..	..	..	1,373	94	73·8	..	..	....	12,407	646	52·0
Nowgong	55	3	54·5	..	..	..	583	52	89·2	..	..	....	4,360	355	81·4
Sibságar	142	4	28·1	5	..	..	572	46	80·4	..	..	....	26,060	2,328	89·3
Lakhimpur	117	6	51·2	..	..	..	105	23	219·0	..	..	....	21,017	1,668	79·3
Total of 1890	2,259	118	52·2	138	3	21·7	2,676	236	88·1	42	4	95·2	114,527	10,293	89·9
„ 1889	1,013	64	63·1	137	3	21·8	2,590	222	85·7	11	2	188·8	108,828	11,317	103·9

33. The statistics of mortality in each district for each half year separately are given in the table below with the corresponding figures of the previous year :

Death rate for the year.

District.	Deaths among all classes of labourers, including children.						Ratio of deaths per mille.					
							Half yearly.				Annual.	
	First half year.		Second half year.		Total.		First half year.		Second half year.			
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Cachar	2,094	1,222	1,939	1,604	4,033	2,826	21·7	12·3	19·6	16·0	41·3	28·3
Sylhet	1,452	1,048	1,422	1,337	2,874	2,385	19·7	13·0	18·0	16·1	37·7	29·1
Kámrúp	96	159	86	149	182	308	31·3	49·2	26·0	48·0	57·3	97·2
Darrang	896	658	840	847	1,736	1,505	22·7	15·5	20·3	19·3	43·1	34·8
Nowgong	272	301	324	220	596	521	44·9	20·0	57·8	14·0	102·7	34·0
Sibságar	1,693	1,884	1,991	1,745	3,684	3,629	19·7	20·8	22·2	18·9	41·9	39·7
Lakhimpur	1,295	1,236	1,812	1,539	3,107	2,775	19·8	17·4	26·0	21·0	45·8	38·4
Total	7,798	6,508	8,414	7,441	16,212	13,949	20 6	16·2	21·2	18·1	41·8	34·3

It is satisfactory to notice that the annual death rate, both for the Province as a whole and for each district except Kámrúp, showed a substantial reduction. In the case of some districts this reduction is mainly due to comparative immunity from cholera, and in all cases it was doubtless partially due to the falling off which occurred in the importation of new, and consequently unacclimatized, labourers, and to the fact that the year was a healthy one. In Kámrúp the increase which took place is ascribed to *kála-azár*. In some cases the rate is suspiciously low, and points to defective registration. Thus the Deputy Commissioner of Darrang writes—

"I have come across a case recently in which the deaths of Act coolies were not recorded because they occurred in a neighbouring *basti* and not on the garden."

34. The following table shows the mortality among both Act and non-Act adults during the past two years :

Death-rate among adults.

District.	Number of deaths among adults.						Ratio per mille of deaths to annual strength.						Annual strength of total adult population of both Act and non-Act labourers.	
	Act.		Non-Act.		Total.		Act.		Non-Act.		Total.			
	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.	1889.	1890.
Cachar	808	545	1,814	1,180	2,622	1,725	75·0	60·3	41·3	25·4	47·9	31·0	54,675	55,463
Sylhet	686	536	1,322	1,129	2,008	1,665	70·6	57·0	34·6	27·5	41·9	33·0	47,868	50,198
Kámrúp	39	89	84	126	123	215	70·2	132·3	58·2	91·4	61·1	105·4	2,010	2,038
Darrang	1,033	910	306	306	1,339	1,216	62·6	49·6	25·6	26·5	47·1	40·9	28,425	29,699
Nowgong	178	154	232	231	410	385	66·9	49·8	34·3	33·4	43·6	38·5	9,384	10,020
Sibságar	1,886	1,627	745	738	2,631	2,575	55·3	52·8	34·2	34·2	47·0	45·7	54,861	55,325
Lakhimpur	1,622	1,582	617	580	2,239	2,162	66·5	60·1	31·0	28·8	50·8	46·5	44,073	46,467
Total	6,202	5,653	5,120	4,290	11,322	9,943	63·5	55·6	35·6	28·8	46·9	39·7	241,297	250,113

Except in Kámrúp and Darrang there was thus less mortality both amongst Act and non-Act adults than during the preceding year, and consequently (with the same

exceptions) the ratio per mille of deaths to annual strength shows a more or less satisfactory reduction.

35. The table below shows the recorded causes of deaths that occurred amongst Act labourers during the past two years :

Causes of deaths among Act coolies.

District.		Mean strength of Act labourers employed in 1890.		Deaths from						Total of columns 4 to 9.			Annual ratio of deaths per mille.
		First half year.	Second half year.	Cholera.	Dysentery.	Jungle fever.	Dropsy.	Anæmia.	Other causes.	First half year.	Second half year.	Total.	
1		2	3	4	5	6	7	8	9	10	11	12	13
Cachar ..	1890	9,658	8,688	148	131	122	30	....	114	206	339	545	60·3
	1889	10,984	10,569	245	145	98	48	....	277	388	420	808	75·0
Sylhet ..	1890	9,551	9,256	71	112	53	90	15	195	239	297	536	57·0
	1889	9,542	9,905	218	148	68	62	....	195	385	301	686	70·6
Kámrúp ..	1890	662	681	9	9	47*	....	....	24	40	40	80	133·3
	1889	588	590	6	7	4	2	....	20	27	12	39	70·2
Darrang ..	1890	17,614	18,802	69	202	184	86	134	285	367	643	010	49·6
	1889	16,034	16,967	208	260	52	74	93	271	520	513	1,033	62·6
Nowgong ..	1890	2,985	3,286	40	24	5	5	5	75	90	64	154	49·8
	1889	2,505	2,765	67	42	9	18	....	47	69	109	178	66·9
Sibságar ..	1890	34,252	35,217	501	366	135	81	73†	681	971	866	1,837	52·6
	1889	32,354	33,852	408	547	136	116	77	552	817	1,019	1,836	55·8
Lakhimpur ..	1890	25,658	26,803	259	348	107	75	167	626	893	889	1,582	60·1
	1889	23,332	25,115	328	339	164	142	120	529	650	972	1,622	66·5
Total of..	1890	100,367	102,684	1,097	1,192	603	367	394	2,000	2,606	3,047	5,653	55·6
	1889	95,289	99,774	1,565	1,478	526	452	290	1,891	2,856	3,346	6,202	63·5
	1888	85,444	88,783	1,512	1,211	409	269	....	2,293	2,543	2,951	5,494	62·9

* Includes 40 deaths from *kála-azár*. † Includes one death from *kála-azár*.

Taking the Province as a whole, a more or less substantial decrease of deaths occurred under the heads of "Cholera," "Dysentery," and "Dropsy," while an increase occurred under "Jungle fever," "Anæmia," and "Other causes."

Both of the Surma Valley districts show a very considerable reduction in the number of deaths from cholera. In Cachar a decrease took place under each head of disease except "Jungle fever," while in Sylhet the only heads which showed an increase were "Dropsy" and "Anæmia." The deaths from *kála-azár* which occurred in the Kámrúp district will be discussed later on in connection with the unhealthy gardens. Darrang shows a large decrease under "Cholera," but an increase under all other heads except "Dysentery." In Nowgong a decrease occurred under all heads except "Anæmia" and "Other causes." As regards deaths from cholera the Deputy Commissionerof Nowgong writes :

"Though cholera was in the district only in a sporadic form during the year under report, it caused a good many deaths, and principally in the following eight gardens, *viz.*, Sokunbari 9 deaths, Lungsung 6, Ram Sing Grant 26, Kellyden 7, Amguri 10, Rengbeng 16, Rangamati 8, and Old Salona 6. Cholera deaths were heavy in the two gardens, Ram Sing Grant and Rengbeng. No special cause can be assigned for the presence of cholera in the year 1890. There were altogether 132 deaths from cholera in the year, against 125 in 1889.

"All the gardens affected with cholera were visited by myself and Dr. McNaught. Mortality generally was higher in the first half of 1890, as will appear from the figures in the foregoing table. A great improvement seemed to take place in the second half of the year. This is to be attributed to the appearance of cholera in the first half of the year and its marked abatement in the second half. Managers also made strenuous efforts to check the disease as far as they could. As cholera existed only in a sporadic form, its appearance on these gardens was not specially reported to us by the managers. It was from the statistics obtained at the time of inspection that the disease was found to have visited these gardens.

"The Civil Medical Officer, who was deputed to inspect the Rengbeng tea-garden, accounted for the cholera deaths there as follows :

"'The coolies are principally Gáros and Kacharis, &c. The Gáros can hardly be prevailed on to take medicine They think that all ailments are due to the action of demons, and that the only cure is to propitiate by sacrifices. On this account they refuse medicines, as being likely to anger the demons they believe in and fear. The Kachari lines are placed further down the bank of the Rengbeng stream on a site that is sufficiently elevated and drained. They use the water from the Rengbeng stream also. During May 1890 there was a sharp outbreak of cholera, mostly confined to the Kachari lines. Cholera was prevalent at the time in some of the Assamese villages not far distant. Kacharis, as a rule, also have little faith in medicines. It is said that a couple of cases of cholera occurred in the Gáro lines first, and after this the disease appeared in the Kachari lines, and was then confined to them. Two-thirds of the deaths were from cholera.'

"The deaths at the time of inspection were 24 ; of these 16 were from cholera."

Sibságar shows a considerable increase of deaths from cholera, and a reduction under all other heads except "Other causes," of which no less than 48 are assigned to influenza. In Lakhimpur an increase occurred under the heads of "Dysentery," "Anæmia," and "Other causes," and a decrease under the remaining heads of "Cholera," "Jungle fever," and "Dropsy." This increase under "Other causes" is assigned to influenza.

In accordance with the orders of the Government of India, Deputy Commissioners were directed in circular letter No. 700—19J., dated the 4th March 1891, to see that a

vigorous endeavour was made to have cases of "Coolies' anæmia" correctly returned, and specially to notice in their annual reports the efforts made to combat this disease and the success attending them. Several of the present reports contain no separate reference to the matter, and it should be understood that in future the question should be fully discussed in those paragraphs of the report which relate to the causes of mortality (paragraphs 35 and 36) amongst Act and non-Act coolies. It is clear that the statistics recorded under this head in the present report are altogether untrustworthy. The Deputy Commissioner of Darrang merely remarks —

"The number of deaths attributed to anæmia and other causes seems to point to careless classification."

The Deputy Commissioner of Nowgong writes —

"The hotel system of dieting anæmic and sickly coolies has been adopted on many gardens in this district, and is reported to have worked very beneficially. *Thymol* treatment has also been largely employed with good effect."

The Deputy Commissioner of Sibságar reports —

"The general decrease in deaths from dysentery, dropsy, and anæmia is satisfactory, as indicating an abatement of the fatal effects of *anchylostomiasis*. I am glad to record that Dr. Banerji in his inspections has paid great attention to this question, both in detecting unsuspected cases of incipient *beri-beri* among the working coolies and insisting on the proper treatment of sick coolies whose cases had not been properly diagnosed. A few cases of *anchylostomiasis* may have resulted fatally owing to complications brought on by influenza, but the deaths returned as due to influenza are too few to affect the conclusions arrived at above."

36. The table below shows the recorded causes of deaths amongst adult non-Act coolies during the past two years :

Causes of deaths among non-Act coolies.

District.		Mean strength of non-Act labourers employed in 1890.		Deaths from						Total of columns 4 to 9.			Annual ratio of deaths per mille.
		First half year.	Second half year.	Cholera.	Dysentery.	Jungle fever.	Dropsy.	Anæmia.	Other causes.	First half year.	Second half year.	Total.	
1		2	3	4	5	6	7	8	9	10	11	12	13
Cachar	1890 ..	45,606	46,978	230	149	273	49	3	467	601	579	1,180	25·4
	1889 ..	43,121	44,677	381	201	351	61	....	820	1,010	804	1,814	41·3
Sylhet	1890 ..	40,151	41,438	135	236	182	111	11	454	496	633	1,129	27·5
	1889 ..	37,148	39,141	299	229	225	95	4	470	654	668	1,322	34·6
Kámrúp	1890 ..	1,415	1,328	16	12	64*	....	....	34	72	54	126	91·4
	1889 ..	1,401	1,482	5	12	29	6	....	32	43	42	84	58·2
Darrang	1890 ..	11,599	11,884	15	49	43	25	30	144	160	146	306	26·5
	1889 ..	12,088	11,810	96	48	23	17	22	100	181	125	306	25 6
Nowgong	1890 ..	6,831	6,989	72	22	37	13	3	84	146	85	231	33·4
	1889 ..	6,528	6,670	29	28	44	24	....	107	108	124	232	34·8
Sibságar	1890 ..	21,533	21,448	282	103	57	29	18	299	439	299	738	34·2
	1889 ..	21,560	21,956	191	145	55	36	28	295	387	358	745	34·2
Lakhimpur	1890 ..	20,192	20,281	90	81	61	32	25	291	311	269	580	28·6
	1889 ..	19,541	20,156	103	118	72	40	17	207	272	345	617	31·0
Total of	1890 ..	147,328	149,847	799	652	717	259	90	1,773	2,225	2,005	4,290	28·8
	1889 ..	141,838	145,893	1,104	781	799	279	66	2,091	2,654	2,466	5,120	35·6
	1888 ..	129,915	135,581	776	602	466	296	....	1,868	2,067	1,941	4,008	30·2

* Includes 37 deaths from *kála-azár*.

It is scarcely necessary to analyze these figures in detail. Taking the Province as a whole, there was a decrease under each head of disease except anæmia, the figures recorded in which case are, however, obviously below the truth.

37. The statement below shows the death rate among children (that is, from birth to the age of 16 years) during the last two years :

Death rate among children.

District.	Mean strength of children in 1890.		Deaths from						Total of columns 4 to 9.			Total of 1889.	Annual ratio of deaths per mille	
	First half year.	Second half year.	Cholera.	Dysentery	Jungle fever.	Dropsy.	Anæmia.	Other causes.	First half year.	Second half year.	Total.		1890.	1889.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Cachar	44,058	44,401	161	193	178	46	....	523	415	686	1,101	1,411	24·8	32·7
Sylhet	30,862	31,917	52	107	207	40	4	310	313	407	720	866	22·9	30·6
Kámrúp	1,168	1,091	6	10	46*	....	....	31	47	46	93	59	82·5	50·0
Darrang	13,157	13,560	15	49	43	25	30	127	131	158	289	397	21·5	33·4
Nowgong	5,183	5,441	20	10	36	4	4	62	65	71	136	186	25 5	38·0
Sibságar	34,597	35,400	179	199	196	33	16	431	474	580	1,054	1,103	30·0	38·4
Lakhimpur	26,154	26,168	43	130	158	16	20	246	232	381	613	868	23·7	37·1
Total of 1890	158,974	157,978	476	698	864	164	74	1,730	1,677	2,329	4,006	....	25·1	....
„ 1889	149,555	149,915	870	921	978	261	75	1,785	2,288	2,602	4,890	4,890	....	33·5

* Includes 24 deaths from *kála-azár*.

If, as was pointed out by the Deputy Surgeon General in connection with last year's report, it is the case that the normal death rate among children from birth to 14 years of age is 48·83 per mille, it is clear that the registration under this head is altogether defective and valueless, more especially when it is remembered that the conditions of child life on tea gardens are the reverse of favourable to health, involving, as they do, much exposure to chills and wet.

Order of demerit as regards death rate.

38. The following is the order of demerit of the various districts both with regard to the mortality among the three different classes of the labour force and to the total mortality:

		Order of mortality among			
		Act adults.	Non-Act adults.	Children.	Total.
Cachar	...	2	7	4	7
Sylhet...	...	4	5	6	6
Kámrúp	...	1	1	1	1
Darrang	...	7	6	7	4
Nowgong	...	6	3	3	5
Sibságar	...	5	2	2	2
Lakhimpur	...	3	4	5	3

From the above figures it will be seen that Kámrúp is the most unhealthy district, whatever test may be applied. Nowgong has improved its position considerably, whereas both Sibságar and Lakhimpur have retrograded. Darrang remains where it was for the preceding year as regards total mortality, and Sylhet and Cachar have changed places.

Mortality according to the country of origin.

39. The statement below shows the mortality distributed according to nationality, and gives figures for adults only:

Nationality.	Sex.	Deaths amongst adults of both classes.		Ratio per mille of deaths to annual strength.		Annual strength of adults of both Act and non-Act labourers.	
		1889.	1890.	1889.	1890.	1889.	1890.
Bengal ...	Men ...	1,077	859	38·4	29·0	55,925	55,919
	Women..	1,072	763				
North-Western Provinces, Oudh, and Behar	Men ..	1,401	1,165	50·8	43·0	49,004	49,893
	Women..	1,092	981				
Chota Nagpur ...	Men ...	3,287	2,976	53·2	45·0	119,423	125,750
	Women..	3,070	2,689				
Nepal	Men ...	2	5	23·6	31·3	254	255
	Women..	4	3				
Madras	Men ...	55	119	47·9	56·6	2,190	4,624
	Women..	50	143				
Bombay	Men ...	4	2	18·4	14·3	271	278
	Women..	1	2				
Assam	Men ...	139	167	14.5	17·6	14,199	13,295
	Women..	68	67				
Orissa	Men ...	.....	1	...	20·8	27	96
	Women..	.....	1				
Total	Men ...	5,265	5,294	45·0	39·0	132,469	135,586
	Women..	5,357	4,649	49·2	40·5	108,828	114,527
Grand total	.....	11,322	9,943	46·9	39·7	241,297	250,113

The figures in the above table show the same order of mortality as in the preceding year between immigrants from Chota Nagpur, the North Western Provinces and Oudh, and Bengal. In the case of immigrants from each of these three main localities of recruitment there was a considerable reduction in the death rate, which however increased in the case of immigrants from Nepal, Madras, and Assam.

40. The following statement shows the proportion of unhealthy gardens in each district. All gardens which have ten or more deaths on them during the year and the death rate in which exceeds 7 per cent. are classed as unhealthy gardens :

Proportion of unhealthy gardens in each district.

District.	Number of gardens.		Number of unhealthy gardens.		Percentage of unhealthy gardens.	
	1889.	1890.	1889.	1890.	1889.	1890.
1	2	3	4	5	6	7
Cachar	184	187	12	12	6·5	6·5
Sylhet	114	115	10	11	8·7	9·5
Kámrúp	89	89	1	8	1·1	8·9
Darrang	86	89	21	9	24·4	10·1
Nowgong	61	61	6	5	9·8	8·1
Sibságar	211	215	33	27	15·6	12·5
Lakhimpur	151	151	27	15	17·8	9·9
Total	896	907	110	87	12·2	9·5

Thus, while the proportion of unhealthy gardens for the Province as a whole shows a reduction as compared with the previous year, an increase took place in Sylhet and Kámrúp, while the figures for Cachar remained the same. The decrease in the case of Darrang and Lakhimpur, and to a smaller extent in Nowgong and Sibságar, is satisfactory. As explaining the real import of the above table the following passage is quoted from the Provincial Report of 1889 : " It must, however, be remembered that in accordance with the remarks made on this subject in paragraph 58 of last year's report, the list of unhealthy gardens now includes all gardens on which the average mortality, either for the garden population as a whole, or for the Act or for the non-Act labourers, taken separately, exceeds 7 per cent., and the number of deaths from which the average is struck exceeds 10. The former practice was to strike the average of mortality on the whole population, and the increase in the number of unhealthy gardens shown in the present report is doubtless largely due to the new method of calculating the mortality."

In connection with unhealthy gardens generally, it may be convenient to refer here to the remarks made by the Government of India when reviewing the Provincial Report for 1889. On that occasion the Governor-General in Council observed —

" It appears that a considerable number of gardens have appeared for several years running on the unhealthy list. For instance, in the Cachar district four gardens are described as 'inveterate offenders.' This is a state of things which demands decided action. Whether it may be necessary to strengthen the law or not is a matter for consideration, but there can be no good reasons why Committees should not assemble with promptitude or why periodic reports should not be exacted regarding the extent to which the Committee's recommendations have been carried out. A reasonable time should be prescribed for carrying them into effect, and failure to do so should entail the closure of the garden. No time should be lost in considering the necessity of closing such gardens as Mesaijan and Hukanguri in the Lakhimpur district and the four gardens above mentioned in Cachar. Future reports should show all gardens that have appeared more than two years running on the black list."

With a view to give effect to these orders, Deputy Commissioners were instructed on the 4th March 1891—(1) to show separately in their annual reports and to discuss the case of each garden which had appeared more than two years running on the black list, and (2) to describe in regard to each garden appearing on the unhealthy list what action had been taken as to (*a*) the assembling of Committees and (*b*) ensuring that the recommendations of the Committees are carried into effect.

In the following paragraphs each district will be taken up separately, and the cause of unhealthiness will be discussed.

41. The following statements give particulars regarding the unhealthy gardens in Cachar, and show the causes of deaths which occurred in them :

Unhealthy gardens in Cachar.

Unhealthy on Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Sadr	Panicherra	106	91	3	8	11	28·3	87·9	116·2
	Mulidhar	82	83	1	9	10	12·1	108·4	120·5
	Daluchcrra	42	44	4	6	10	95·2	136·3	231·5
	Dulargram	334	340	9	16	25	26·9	47·0	73·9
	Palarband	164	150	5	10	15	30·4	66·6	97·0
	Kumbirgram	184	169	6	8	14	32·6	47·3	79·9
	Baladhan	184	156	8	6	14	43·4	38·4	81·8
	Alni	147	130	5	7	12	34·0	53·8	87·8
	Rosekandi, Rosepur, and Etipur	154	135	9	12	21	58·4	88·8	147·2
Hailákándi .. .	Lalamukh	411	308	12	46	58	29·1	149 3	178·4
	Ainakhal	398	363	6	28	34	15·0	77·1	92·1
	Total	2,306	1,969	68	156	224	30·8	79·2	110·0

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Sadr	Panicherra	..	4	1	..	..	6	11
	Mulidhar	..	4	2	1	..	3	10
	Daluchcrra	6	..	4	..	..	..	10
	Dulargram	3	9	2	..	..	11	25
	Palarband	..	11	2	2	..	..	15
	Kumbirgram	..	4	2	..	..	6	14
	Baladhan	..	6	..	..	..	8	14
	Alni	1	3	..	1	2	5	12
	Rosekandi, Rosepur, and Etipur	2	1	..	4	1	13	21
Hailákándi	Lalamukh	3	12	4	17	..	22	58
	Ainakhal	1	20	..	2	..	11	34
	Total	14	74	17	27	3	89	224

Unhealthy on Act and non-Act population taken together.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Sadr	Nagadum ...	327	350	22	13	35	67·2	37·1	104·3

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy	Anæmia.	Other causes.	Total.
Sadr	Nagadum ...	8	11	6	3	...	7	35

There were no gardens unhealthy on non-Act population only.

With the exception of two gardens, *viz.*, Mulidhar and Kumbirgram, all the unhealthy gardens have been inspected by the Civil Surgeon, and the following remarks are extracted from his inspection reports :

PANICHERRA (*inspected on the 25th May 1891*)—

"First half—
Free labourers 2, children 2—
1 dysentery.
1 bronchitis } (after influenza).
1 pneumonia }
1 asthma.
Act coolies 3—
2 dysentery.
1 bronchitis (after influenza).

Second half—
Free labourers 2, children 3*—
2 dysentery.
2 fever.
1 diarrhœa.
Act-coolies 8—
2 dysentery.
5 diarrhœa.
1 fever.

* One fever, two effects of influenza.

"Influenza has caused much of the sickness in this garden and subsequent death. Several of the dysentery and diarrhœa cases were due to this cause. Their general health was previously undermined by the epidemic, and they had not strength to rally after an attack of dysentery or diarrhœa. The lines should be very healthy, situated in cultivated ground and on the banks of the Jatinga river, whilst from their position they are not exposed to the gorge winds that affect many gardens in North Cachar.

"Their drinking water is also good; hill streams clear and pellucid in appearance. The river, particularly in the cold weather and after the first rush down of the rains, is also good.

"The local market is well supplied with vegetables according to time of year and other food stuffs. I noticed no signs of *anchylostomiasis* amongst the coolies, nor did there appear to have been any deaths due to this cause."

DALUCHERRA (*inspected on the 25th May 1891*)—

"First half—
Free labourer 1, children 1—
1 fever.
1 diarrhœa.
Act coolies 4—
2 fever.
2 cholera.

Second half—
Free labourers 2, children none—
1 fever.
1 cholera.
Act coolies 6—
2 fever.
4 cholera.

"This garden shows high mortality amongst Act coolies only, but this is based on a small number of coolies under the Act, about 42 first half and 44 the second half; but it is also due to cholera—an unpreventable cause. Six deaths occurred from this amongst the contract coolies and 1 in the free labourers. Cholera had been in the neighbouring villages, and was unfortunately brought into the tea garden.

"The lines are well placed and drained, and good water supplied for drinking as a rule. This is a healthy garden. The bázár is well supplied with food stuff.

"There have been no cases of *anchylostomiasis* detected amongst the coolies."

DULARGRAM (*inspected on the 13th May 1891*)—

"First half—
Free labourers, adults, and children 2—
1 abortion.
1 dysentery.
Act coolies 9—
2 cholera.
1 pneumonia.
1 bronchitis.
1 pleurisy.
2 fever.
1 dysentery.
1 *anchylostomiasis*.

Second half—
Free labourers, adults 5—
1 abortion.
1 cholera.
1 dropsy.
1 dysentery.
1 bronchitis.
Children 14—
7 fever.
6 dysentery.
1 diarrhœa.
Act labourers 16—
1 pneumonia.
1 gastrites.
8 dysentery.
2 diarrhœa.
1 bronchitis.
1 cholera.
1 suicide.
1 *anchylostomiasis*.

"Of the above deaths, 14 occurred from the after-effect of influenza. This disease was very prevalent in the garden last year, and many cases were entirely off all work for some time, as many as a hundred and more being ill at the same time. All classes were affected, men, women, and children. The system being previously weakened by this disease and before convalescence had set in any ailment they contracted proved fatal. There were two cases of abortion, and both appear to have been induced, and not from natural causes.

"Three cases of cholera.

"Of dysentery, of which there were upwards of 17, 6 amongst children and 9 amongst Act coolies. All of these had been affected by the epidemic of influenza, and the disease (dysentery) proved too strong for treatment in an already weakened constitution. Of those affected in the Act coolies, they were originally not a strong healthy batch of coolies imported in 1889 from Hazaribagh.

" Wells are provided for drinking, and the water is good and sufficient. There are many tanks (natural) formed between the *tilas*, and these are supposed to be used only for bathing and washing clothes in, but it is difficult to prevent the coolies sometimes drinking this water, although strict orders are given about it.

" The food-supply is good and ample with bázár well supplied with vegetables according to season.

" There is but little of the disease *anchylostomiasis*, and only two deaths have occurred from it.

" Had it not been for the outbreak of influenza, this garden would have been a healthy one."

PALABAND (*inspected on the 18th May 1891*)—

" First half—
Free labourers 23, children 13—
24 dysentery.
7 fever.
1 cholera.
1 general dropsy.
1 hemoptysis.
1 gastrites.
1 murder.
Act coolies 5—
3 dysentery.
2 fever.

Second half—
Free labourers 18, children 11—
13 dysentery.
5 pneumonia.
2 cholera.
7 general dropsy.
1 fever.
1 cold.
Act coolies 10—
8 dysentery.
2 dropsy.

" The mortality from dysentery in particular at this garden has been very high ; 48 deaths have occurred from this disease alone.

" There is no doubt that the majority of the coolies suffering from this disease have, in spite of the well-water provided, used against all orders water from the river and *bhil*. It is most difficult, and in many cases impossible, to obviate this if a river is near the lines. At the same time I wrote in my report of last year that on my visit I found a serious outbreak of influenza then raging on the garden, 80 or more being on the sick list at one time. This no doubt has helped to weaken the health of the coolies generally, and they have more easily and readily succumbed to any other disease they have contracted. My prognosis of last year has, I am sorry to say, not proved correct, and the mortality is very high.

" No doubt many of the coolies, as mentioned in my last year's report and also alluded to in the manager's letter dated the 23rd May 1890, which I beg to forward, were totally unsuited for labour here—weakly, sickly, and speedily sank under any ordinary attack of disease.

" *Anchylostomiasis* is also amongst the coolies. Many of the dropsy, and some no doubt of the dysentery are due to this cause. Both Dr. Dundee, the medical officer to the company, and the native doctor on the garden are fully alive to the treatment of this disease, and the appropriate drug, thymol, is largely used.

" The bázár is well supplied with all kinds of food stuff according to the time of year.

" Water is carried out for the coolies to drink during the time they are at work to prevent them using *bhil* water. The *bhils* themselves are being rapidly drained and planted with tea, and this will undoubtedly render the garden a very much more healthy one. "

A copy of the report made last year by the Civil Surgeon on the above garden was sent to the manager of the garden, who in returning the report wrote—

" In forwarding you the enclosed, I would like to explain that the high mortality last year was due to the sickly new coolies supplied, amongst whom 50 of the deaths occurred. Why they came to the labour districts I am unable to say, unless it was to decrease the mortality in their own province. A large proportion of the new coolies were free labourers and put under Act XIII on the garden, and also there was a large *chálán* of Uriyas from Ganjam ; these also appear amongst non-Act coolies. The recommendations of last year as to drinking water-supply were faithfully carried out, with the result that the total deaths were reduced during the year by 33 deaths, and a similar improvement continues to take place. The work of preventing the coolies from drinking river and *bhil* water was of course very gradual in its effects, the conservatism of coolies in this respect being hard to overcome. A lot of money has been spent in making new and clearing old wells, and all lines are now well provided. The greatest number of deaths occurred in June, when the influenza epidemic was at its worst, and though the primary cause of these deaths was not influenza, yet there was no doubt that the coolies' constitutions were undermined, and they were thus unable to withstand any other disease with which they happened to be attacked. The average daily sick during June with influenza was 41, reaching on many days up to 80."

BALADHAN (*inspected on the 19th May 1891*)—

" First half of 1890—
Free labourers 1, children 5—
3 dysentery.
1 diarrhœa.
1 cholera.
1 fever.
Act coolies 8—
4 dysentery.
1 diarrhœa.
1 jaundice.
2 accidental drowning.

Second half—
Free labourers 4, and children 9—
1 *angina pectoris* (heart disease).
1 debility.
4 diarrhœa.
4 fever.
1 dysentery.
1 jaundice.
1 unknown .
Act coolies 6—
4 diarrhœa.
2 dysentery.

" The main factor in this mortality is due to *anchylostomiasis*, which is very prevalent in this garden. I inspected the sick on the day of visiting the garden with Dr. Dundee, the medical officer

and we found at least twelve well-marked cases and others that appeared suspiciously like the commencement of the disease.

"I have no doubt myself that it has been originally imported by the weakly, sickly coolies that have been persistently sent up and reported on year after year as being totally unfit for labour in this garden or any other like it. It is a very jungly *tila* garden situated on the borders of the district near the Manipur frontier, and I consider the agents who send or permit such coolies to be imported responsible for much of this mortality. I may mention they offered the manager, Mr. Cockburn, a batch of similar coolies this year, but he has very wisely declined them. They (the coolies) are supposed to be cheap, but they turn out a very dear bargain.

"Influenza has also been very prevalent last year, and caused much illness and indirectly many of the deaths; five at least were due to the after-effects of this disease. But the site of the lines, situated, as they are, on small *tilas* on the banks of a river, which is anything but good for drinking during the commencement of the rains and during them, is anything but sanitary. On my last inspection, the then manager, Mr. Horne, informed me that he intended moving the greater part, if not the whole, of the huts to another site, and hoped to do so before the close of the cold season of 1890-91, but this has not been done. No blame can be attached to the present manager, Mr. Cockburn; he knew nothing of this, and came too late to do so if he had, but most certainly this should be done as soon as practicable.

"Wells are provided for the use of the coolies, and all means are taken to induce them to use this water, and chaukidárs are kept to enforce compliance with this necessary rule, but not always effectually; and in spite of all this the coolies do get to and drink the river water. The lines must be removed away from the neighbourhood of the river or any *bhil* water, of which latter much is near to and between the *tilas*.

"The garden is otherwise good, and should, for properly-selected coolies, be a healthy one.

"The local bázár is well supplied with food stuffs.

"A copy of the above remarks will be sent to the manager."

The Deputy Commissioner in forwarding the above report writes—

"I think that no more importation should be allowed for this garden till the lines are removed to a better site away from the river, and wells provided near the lines."

ALNI (*date of inspection not given*)—

"First half -
Free labourers 6, children 4—
4 diarrhœa.
1 dysentery.
1 anæmia (*anchylostomiasis*).
1 fever.
1 cholera.
1 influenza.
1 convulsion.
Act coolies 5—
2 dysentery.
2 anæmia (*anchylostomiasis*).
1 bronchitis.

Second half—
Free labourers 11, children 1-
8 dysentery and diarrhœa (*anchylostomiasis*).
1 cholera.
1 influenza
1 pneumonia.
1 dropsy.
Act coolies 6—
1 pneumonia after influenza.
2 diarrhœa.
1 cholera.
1 dropsy.
1 dysentery.

'The garden was badly affected by influenza last year and although the disease did not, except in two of the cases recorded in the returns cause death, yet it so weakened the others that undoubtedly it was a main factor in swelling the death rate. It is also prevalent in many of the sick in hospital. *Anchylostomiasis* also has been and is present in the garden. Many of the so-called chronic dysentery and diarrhœa have been the effects of this disease. Amongst the sick last mentioned, I pointed out many of the so-called fever cases to be purely influenza. This disease this year does not always show itself with catarrhal symptoms, running at the nose and eyes, but it has the typical intense front headache, tightness across the chest, oppression in breathing, cough and continued high temperature. I also pointed out to the manager, Mr. Grierson, and to the native doctor many cases of *anchylostomiasis*.

"The deaths this half year have been 18 of all classes, four of which at least were from *anchylostomiasis*, some of the dysentery and diarrhœa also I feel certain might safely be put down to the same disease. Pneumonia and bronchitis and cholera were the other causes of the deaths.

"I requested the Manager to insist on his native doctor making an inspection of all coolies at muster and by that means spotting *anchylostomiasis* before it has reached a chronic state. The symptoms at first are so typical that it is easy to diagnose this disease, and then if a patient is put under treatment at once with the proper drugs, a cure can be effected; it is when the disease is allowed to get too strong a hold on a patient that treatment is often abortive and useless.

"Another point I asked the Manager to carry out, was to give the sick suffering from this disease stimulants at least twice a day; the more I see of this complaint the more certain I am that they require stimulants as well as food and medicines. The situation of the lines is fairly open, they are on the banks of the river Barak, the garden itself on high tilas 350 feet above the river and the lines were at one time there, but it was considered not healthy, and they have been removed down to their present site.

"River water is used by the coolies principally, as well as hill streams; the latter I have asked the manager to prohibit as far as possible. Wells are utterly useless, the coolies will not use them when the river is so near.

"The ground in and near the lines and hospital is periodically dug up and turned over. I have given certain other instructions to the manager and hope that the high death rate will cease."

The Deputy Commissioner writes—

"Calls for little remark. It is to be hoped the measures ordered by the Civil Surgeon will prevent the further spread of *anchylostomiasis* here."

ROSEKANDI, ROSEPUR, AND ETIPUR (*date of inspection not given*)—

"This garden is composed of three gardens under the generic name of Rosekandi, the one that had the high death rate is 'Mains.'

"First half. Free labourers 18, children 11—

6 pneumonia and bronchitis.	3 cholera, 1 died in dispensary before reaching the garden.
3 dropsy.	4 fever.
3 asthma.	1 apoplexy.
3 diarrhœa and dysentery.	3 infantile diseases.
2 anæmia.	1 scrofula.

"Act coolies 9—

3 cholera.	
1 dysentery.	1 anæmia.
3 dropsy.	1 asthma.

"Second half. Free labourers. Adults 17, children 19—.

9 *anchylostomiasis*	1 phthisis.
3 dropsy.	1 asthma.
1 bronchitis.	7 fever.
7 dysentery and diarrhœa.	1 leprosy.
5 anæmia.	1 infantile disease.

"Act coolies 12—

9 *anchylostomiasis.*	1 dropsy.
1 diarrhœa.	1 debility.

"Of the above, 18 deaths have been returned as from (*beri-beri*) *anchylostomiasis*, but by enquiries I have made and comparing notes with the manager there is no doubt that many others have died from this disease, and I have no doubt to the above 18 at least as many more should be added, *viz.*, all the anæmia (debility) cases, also the dropsy and most if not all the dysentery and diarrhœa. There have been also 6 cases of cholera.

"Influenza was also very bad last year, 70 to 80 being ill and off work at a time, and, although no deaths have been returned from this cause, yet the effects of this epidemic have been shown in the death rate, as it undoubtedly helped to swell the mortality.

"This garden has been hitherto nearly free of *anchylostomiasis* until a most indifferent sickly batch or batches of North Western Province coolies were imported, 88, 89 and 90, who were suffering with the disease at the time and brought it up with them. From them it spread to many of the old coolies who had previously been exempt from this disease. This is about the first garden that has shown the infectiousness or contagiousness of *anchylostomiasis* so well marked. Children as well as adults were suffering from it, and many of the children undoubtedly died of it.

"On my visit of inspection I saw several cases still suffering from it, but the virulence of it has I hope passed away, and if care in treating those still suffering and due steps be taken with regard to their drinking water not being contaminated, the disease should be stamped out. Their drinking water in this garden, 'Mains,' is from principally two sources, *viz.*, wells and tanks, the latter I have condemned and they were the principal source of the disease spreading, One of the tanks is to be entirely done away with, the other is only to be used for bathing purposes, and steps are to be taken to prevent as far as possible the coolies drinking it and carrying it away to their houses.

"The wells (*pucca*) are good, well protected and covered in and contain good water. No other water is to be allowed to be used for drinking and cooking. The tanks must be used for bathing purposes, as there is nowhere else for the coolies to go to at least during this present season.

"I have sent full particulars to the manager of the symptoms and treatment of this disease and pointed out that several of the cases that were on the sick list were suffering from this disease (*anchylostomiasis*) and not from other complaints, although their symptoms may have led the native doctor to imagine the coolies were ill with only ordinary diarrhœa and dysentery. The signs of the disease once grasped cannot be mistaken or overlooked, more particularly the deadly white conjunction of the eye and the peculiar tongue. The food supply and general situation of the lines are both good.

"I have requested the manager that those suffering from *anchylostomiasis* may be segregated as far as possible, their excreta disinfected and buried in latrines, the latter as far away as possible from contaminating the water."

The Deputy Commissioner writes—

"If it has been definitely ascertained, as the Civil Surgeon apparently thinks, that in this case *anchylostomiasis* was introduced into the garden by North Western Provinces coolies imported in 1888-89, this points to the necessity for the careful medical examination at all recruiting centres of all labour without distinction. This would perhaps be difficult of practical application, but could, I think, be done. I am however inclined to doubt whether the disease was really introduced in this way and think enquiry might be made as to whether any similar cases are known. It is also clear that we must endeavour to introduce proper latrines on all gardens and compel the coolies to make use of them. I am aware this is difficult, but until this is done we can never ensure the purity of the water supply, and so really control the disease. I shall endeavour to induce one or two managers to try the system, and see whether it can be worked."

LALAMUKH (*inspected on the 24th December 1890*)—

"The manager, Mr. Ross, kindly mustered his labourers for my inspection at Lalamukh. There were present 283 men and 295 women and children, who were about to go to their work on the garden, besides 30 men and women who were attending hospital, 12 of these 30 being in-door patients.

"The 30 men and women attending hospital were all suffering from marked anæmia and dropsy.

"Of the 283 men and 295 women and children, who were about to proceed to their work, 82 of the former and 93 of the latter were suffering from anæmia. These 82 + 93 + (hospital) 30 = 205 out of the 608 present, that is, one-third, or 33 per cent., affected with anæmia.

"In addition to the 30 in or attending hospital, there were approximately 20 of the 175 (82 + 93) anæmic coolies also suffering from dropsy to a greater or less extent. Here then we have 50 (30 + 20) out of a total of 608 present suffering from anæmia and dropsy, *i.e.*, 8 per cent.

"The general physique of the coolies as a body was poor. The majority of the coolies belonged to the class known as "North Westers," being recruited from the North West. There were very few Sonthalis present. The disease was confined entirely to the former class.

"As to the nature of the malady, there can be little doubt that it is *anchylostomiasis* in the majority of cases. In most of the cases the spleen was not enlarged, nor was there a previous history of fever as in malarial cachexia, while not a few of the cases, men, women, and children, were addicted to eating earth, and Dr. Taylor (the medical officer who visits the garden) informs me that in cases where he has used thymol, he has sometimes found the *anchylostomum duodenale* in the dejecta (and sometimes round worms). Were thymol systematically used, and the dejecta carefully scrutinized, it is more than probable that the presence of the *anchylostomum* would be established in all or almost all the cases.

"Dr. Taylor was unfortunately unavoidably absent at my inspection, while the native medical subordinate who was in charge of the garden hospital was absolutely ignorant of the parasite *anchylostomum* and of the use of thymol in expelling this parasite. This ignorance and incompetence are not to be wondered at, as the only training this 'Doctor Babu' has received was that of a 'Compounder' at the Hailákándi charitable dispensary.

"As to the drainage, the coolies' huts are situated on the banks of the Katakhal above flood level with low mud plinths and drained by ditches. I would suggest the raising of these mud plinths and deepening and clearing and keeping clean the ditches draining the coolie lines. Further, *dhán* cultivation should not be allowed too close to the coolie lines, as it is in some cases at present.

"In regard to latrines, there are none. The coolies use the river bank and the adjoining jungles, including the edges of a *bhíl* or *jhíl* at the foot of the tea *tilas* and near their lines for the purposes of nature. This habit I consider most obnoxious, especially in the vicinity of the *bhíl* for the reason stated in the next paragraph. There should be a regular system of latrines for men and for women, established on the trench system, and each trench covered in with earth after daily use. The trenches should be situated above flood level and away from source of drinking water.

"In reference to the water supply, the coolies obtain their water from the Katakhal, and while at work not unfrequently from the *bhíl* above mentioned. There is considerable room for improvement in this direction. The use of the *bhíl* water for drinking purposes should be strictly interdicted, while wells should be sunk on the *tilas*. Mr. Ross showed me two wells which he was having excavated, but they were on the flat, their sides were falling in, and their mouths were flush with the ground. There is no doubt that filtering and boiling the drinking water is highly desirable, but it is more easy to recommmend than to carry into execution for a large body of men like the coolie establishment on a tea garden. If the river water is used as drinking water, and the natives will use it despite orders to the contrary, let the banks at least be kept clean, and don't let the banks be utilised for latrine purposes. Before leaving the subject of water supply, I would recur to the fact that the coolies should on no account be allowed to drink the *bhíl* water, as the ova of the *anchylostoma* no doubt abound in this stagnant water, gaining access thereto from the fæcal matter deposited on its banks.

"About food, wages, &c., it is unnecessary to make any remarks beyond the fact that during the busy season sufficient time is not allowed to the coolies in the middle of the day for cooking their food, the coolies being sent to their tasks at 8 a.m., and not returning to their homes till 4 p.m. I would recommend that the coolies be sent to their work earlier, so as to allow them two hours in the middle of the day to cook their food. The native doctor of the garden I consider incompetent for his post, and would recommend that a passed Hospital Assistant at least be employed in his place ; the sooner the better, so that the disease may be properly treated medically with thymol and tonics. There is an attempt made at present to diet the dropsical patients with milk, but the quantity allowed is insufficient. Each patient should receive from one to one and a half seer per diem. The worst cases of dropsy should be sent in to the Silchar dispensary for regular treatment, or discharged, if such a proceeding is allowable, with an allowance. The anæmic cases should be excused labour in proportion to the severity of the disease.

"In conclusion, I would recommend that no fresh coolies be allowed to go to this garden until the health of the coolies improves, as it is an acknowledged fact that this disease spreads when once introduced into a garden. If fresh coolies are allowed to go to this garden, they should be of a healthy class and kept apart from the affected coolies. Above all, I would strongly urge the immediate introduction of the dry-earth trench system of latrines and a good water supply.

"The manager of this garden should have a copy of Dr. Kinsey's report on 'Anæmia' of Ceylon published by Geo. J. A. Skeen, Government Printing, Colombo, as a book of reference and guidance in the prophylactic and curative treatment of this disease."

In forwarding the Civil Surgeon's report, the Deputy Commissioner wrote—

"The manager has been furnished with a copy of Dr. French's report, and so he knows what reforms he ought to inaugurate. It is remarkable that the death rate among non-Act coolies is very low. Out of an average population, non-Act, of 761 in 1889 and 913 in 1890, the death rate was only 1·54 in 1889 and ·87 in 1890.

"Dr. French does not say whether the coolies he examined were Act or non-Act coolies ; probably they belonged to both classes. He saw however only half the population of the garden ; and if the other half is in the same condition, it is very difficult to understand how the mortality among non-Act coolies can be so low as is shown in the returns. It is only during the last two years that the non-Act coolies appear to have enjoyed so great an immunity from disease and death, while in these

very years the percentage of deaths among Act coolies has increased in an alarming manner. I feel inclined to doubt the accuracy of the figures for non-Act coolies ; 9 per thousand is an inconceivably small death rate.

"The recommendations made by Dr. French as to the introduction of trench latrines, construction of wells, preventing coolies from drinking the water of the neighbouring *bhil* should be enforced, and I will ask the manager what has been done by him in these matters and also with reference to the appointment of a new resident native doctor in place of the incompetent man who had charge when Dr. French made his inspection.

"I think a further medical inspection of this garden ought to be made, care being taken to have all the coolies mustered."

A copy of the Civil Surgeon's remarks on the above garden was sent to the manager, who wrote to the Deputy Commissioner as follows:

"I beg to acknowledge receipt of your favour of 20th instant, and have the honour to inform you that all suggestions in Dr. French's inspection report have been carried out with the exception of the system of trench latrines. This has however my attention, and shall be carried out during the next cold season if at all practicable.

"Good wells have been sunk, made *pucca*, and have been protected from contamination and supplied with pumps at considerable expense, and everything possible is being done to keep the coolies from drinking either river or *bhil* water.

"The resident medical officer is competent and a man of great experience.

"You will please note that I only received a copy of Dr. French's inspection report on the 10th April 1891, on receipt of which I requested Dr. Taylor, the medical officer in charge, to inspect and report on the health of the coolies, water supply, &c., which he did on the 26th of the same month, and I herewith beg to enclose a copy of his report for your perusal and information.

Remarks on Dr. French's Report by David Taylor, Esq., M.D.

"'Inspected the Lalamukh coolies on the 26th April 1891. Found 40 cases of anæmia. As there had only been 8 deaths since Dr. French's inspection (excluding 2 deaths from cholera), 157 of the anæmia cases must have recovered from the deplorable condition they were in on 24th December. Of the 40 cases remaining on the 26th April, 31 might be put down as possible cases of *beri beri*. These 31 cases were all treated by thymol, 20 grains being given twice a day for two days, and these purged by castor oil, in two cases round worms were passed, and in two others what the Doctor Babu calls thread worms were passed. These latter might be the *anchylostomum*. In all the cases the excreta were carefully examined by the Doctor Babu.

"'I do not know whether Dr. French means that a majority of the total 205 anæmia cases or of the 50 anæmia and dropsy cases were afflicted with *beri-beri*. How does it come that the disease has not spread to the jungly coolies, who are described as living in such an uncared for and insanitary state ? Is it not also singular that so many of the anæmia cases should have recovered without the use of any anthelmintic treatment ?

"'With regard to the passage of worms after the use of thymol, six years' experience in Cachar has taught me that a worm of some kind was as natural an inhabitant of the coolie intestine as the tick is of a pariah dog's ear. From experiments I have made with vermifuges on healthy coolies some years ago, I came to the conclusion that nearly 50 per cent. of coolies were troubled with worms.

"'The Doctor Babu on the garden on 24th December was a *budli*. I cordially agree with what Dr. French says regarding the desirability of a regular system of latrines ; but it is impossible to carry it out, as every one who knows the coolie is well aware. As far as I know, no such system is in existence in Cachar.

"'It is not well to criticise too severely an unfinished work. I consider the new wells at Lalamukh are very good and quite free from any chance of contamination by surface water. There are many objections to Dr. French's recommendations of sinking wells on the *tilas* : (1) the great depth required to get water, and (2) the impossibility of getting coolies to go any distance from their homes for water. I do not think the coolies ever use the *bhil* water for drinking ; if the jungly coolies do so, why do not they get *beri-beri* from the use of this water, which abounds with the ova of the *anchylostomum* ? If the banks of the river could be kept clean, a great blow would be struck at cholera, which is endemic on the Katakhal garden. Keeping clean the banks at Lalamukh, however, would not much benefit the Lalamukh coolies, as the water is already contaminated by the sewage from *bastis* and other gardens further up.

"'The native doctor is as competent a man as any garden doctor in Cachar. He has had great experience amongst coolies, and I would prefer him on a garden to any Hospital Assistant. I think the routine treatment of all cases of anæmia by large doses of thymol has been carried too far, and I am quite certain that if Dr. French's recommendations of sending the anæmic coolies to Silchar for treatment be carried into effect, very few of them will ever come back to Lalamukh.'"

AINAKHAL (*inspected on the 26th June 1891*)—

"First half—
Free labourers 2, children 5—
3 cholera.
2 dysentery.
1 pneumonia.
1 diarrhœa.

Act coolies 6—
5 dysentery (4 *anchylostomiasis*).
1 bronchitis.

Second half—
Free labourers 2, children 2—
3 dysentery.
1 chronic diarrhœa.

Act coolies 28—
16 dysentery, mostly *anchylostomiasis*.
2 bronchitis.
1 apoplexy.
1 asthma.
2 dropsy. } *anchylostomiasis*.
4 *beri-beri*. }
2 child-birth.

" As will be seen from the above, I have marginally noted that most of the deaths have occurred from *anchylostomiasis*. I have come to this conclusion after visiting the garden and seeing the coolies. Only four had been so entered in the half-yearly return, but on inspecting the sick I diagnosed and showed to the manager, Mr. Crawford, and his native doctor many already suffering with this disease, and which he (the native doctor) was treating for dysentery, and I have therefore come to the conclusion that most of the so-called dysentery and also the dropsical cases that have died and are entered in the return are or were due to *anchylostomiasis*. I unfortunately did not meet the European medical officer, Dr. Purvis, he having been called out to a distant garden. He has lately arrived, and is possibly not as yet fully informed as to this disease. I am sending him Dr. Kynsey's pamphlet to read. I have also requested the manager to forward me for analysis three different kinds of the water used by the coolies, *viz.*, (*a*) the Dhaleswari river, (*b*) the Ainakhal stream, and (*c*) the tank. I will, on receipt of the bottles and after analysis, report as to their fitness for drinking.

" Amongst the old coolies, who live apart from the other coolies and whose huts are on the banks of the Dhaleswari river, no cases of this disease have occurred, and they are wonderfully healthy and free of diseases of all kinds. Those in the synopsis of disease and entered as due to dysentery are children of the Act coolies, and probably suffered from *anchylostomiasis*.

" After the analysis of the water, it will be, if my surmise is correct and that *anchylostomiasis* is greatly due to this cause, a point to be considered as to the removal of the Act coolies' lines, or most of them, to another site, but the water supply is, and will be, a difficulty. The tank is kept very clean and well protected, and only used for drinking ; and if this is infected, it and the Ainakhal stream must be abandoned.

" Nothing as to the removal of lines can however be effected before next cold weather.

" I wish to point out that it is only amongst newly-imported coolies that this disease is prevalent, and it has not affected the old coolies, who live apart and separate from them.

" I have nothing further to add as to the food-supply or the hours for cooking, both of which are ample.

" I have instructed the native doctor as to what to do in treating coolies affected with *anchylostomiasis*, and requested the manager to give a small ration of rum to those affected. I have found that feeding alone is not sufficient ; they require stimulants.

" All the sick are dieted and receive good and properly-cooked food under supervision of the native doctor."

NAGADUM (*inspected on the 8th May 1891*)—

" First half—
- Non-Act coolies, adults 4—
  - 1 pneumonia.
  - 1 dysentery.*
  - 1 cholera.
  - 1 dropsy.*
- Children 6—
  - 2 fever.
  - 2 convulsions.
  - 2 dysentery.
- Act coolies 12—
  - 7 cholera.
  - 4 dysentery*
  - 1 dropsy.*

Second half—
- Non-Act, adults 1—
  - 1 dysentery.
- Children 6—
  - 3 fever.
  - 1 convulsion.
  - 1 dropsy.*
  - 1 dysentery.
- Act coolies 6—
  - 1 debility of old age.
  - 1 child-birth.
  - 3 dysentery and diarrhœa.
  - 1 inflammation of bowels from earth eating.

* All from *anchylostomiasis*.

" Amongst the deaths in adults, 11 are from unpreventible causes, *viz.*, 8 cholera, which was in the neighbouring *bastis* ; and until an unfortunate coolie against orders went into the *basti*, caught the disease, and brought it back with him and died, the garden had been completely free of it ; also the senile debility case (an old woman of over 60) and the case of death in child-bed and the death from inflammation of the bowels from earth-eating, who had been known to have eaten an immense quantity of earth which accumulated in her bowels and produced inflammation.

" There have been several cases of this nature (earth-eating), but none except the above have proved fatal. It is a morbid appetite principally affecting women, and also, I am convinced, due to a craving for salt, and probably has something to do with *anchylostomiasis*. I made particular enquiries about the supply of salt, and it is easily procurable in the neighbouring *hâts* at a fair, and not at an excessive rate. Five of the other deaths are due to *anchylostomiasis*, which is still in this garden. Inspected the sick, some 16 or 17, with Dr. Cowan, and we picked out 5 or 6 with the disease well marked in them. They were under, and had been for some time, the proper treatment of thymol, &c.

" I also impressed on the manager, Mr. Horne, but who had only been on the garden a few days, and also the proprietor, Mr. Macdonald, the necessity of watching closely the advent of this disease and the necessity of feeding the debilitated coolies with nourishing food, and also administering stimulants in other cases, which I am more and more convinced is of primary importance in this disease.

" This disease is undoubtedly spreading in Cachar. Cases have been met with in the *bastis* adjoining this garden and in other parts of the district.

" The water supply is mainly from wells properly protected and covered in. Two new ones have been made.

" There is an ample supply of food stuff procurable in the neighbouring *hâts*.

" The site of the lines and the garden generally has been so often described that I have not thought it necessary to do so again."

As regards this garden the Deputy Commissioner writes—

" This garden has been on the black list since 1886. In 1888 a committee under sections 128 and 129 was held on this garden, and at the recommendation of the committee the importation of North Western Provinces, Oudh, and Behar coolies was stopped, and some other sanitary improvements were made, notwithstanding which the garden continues to be unhealthy. * * * * * * * * * Of the 35 deaths which occurred in 1890, 8, or more than one-fifth of the deaths were alone from cholera. If cholera deaths be omitted as an exceptional cause, the death rate comes to 85·7 per mille. Comparing however the figures for 1889 with those of 1890, it appears the death rate among Act and non-Act labourers altogether fell from 129·7 to 104·3, and that among Act labourers only from 140·3 to 120·9, which shows a slight improvement."

Unhealthy gardens in Sylhet.

42. The following statements give particulars regarding the unhealthy gardens in Sylhet and show the causes of the deaths which occurred :

Unhealthy on Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
South Sylhet ..	Lakhaicherra	217	269	14	10	24	64·5	37·1	101·6
	Sindur Khan	293	271	18	12	30	61·4	44·2	105·6
	Fuskuri	293	275	13	8	20	41·0	29·0	70·0
	Rajghat	529	501	16	27	43	30·2	53·8	84·0
	Kajuricherra	595	508	27	43	70	45·3	84·6	129·9
	Barmacherra	293	286	11	12	23	37·5	41·9	79·4
	Gandicherra	247	247	8	12	20	32·3	48·5	80·8
Karimganj ..	Sonarupa	163	156	13	3	16	80·2	18·9	99·1
	Total	2,629	2,515	119	127	246	45·2	50·4	95·6

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
South Sylhet	Lakhaicherra	3	6	.....	1	.....	14	24
	Sindur Khan	4	4	.....	9	.....	13	30
	Fuskuri	1	3	2	1	2	11	20
	Rajghat	7	5	.....	1	5	25	43
	Kajuricherra	10	6	4	21	.....	29	70
	Barmacherra	4	5	1	6	.....	7	23
	Gandicherra	8	2	1	.....	.....	9	20
Karimganj	Sonarupa	.....	8	2	1	3	2	16
	Total	37	39	10	40	10	110	246

Unhealthy on non-Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Karimganj.	Tarvincherra	396	437	6	26	32	15·1	59·4	74·5
	Sonakhira	224	232	6	11	17	26·7	47·4	74·1
	Total	620	669	12	37	49	19·3	55·3	74·6

Causes of deaths.

Subdivision	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Karimganj	Tarvincherra	..	9	7	1	2	13	32
	Sonakhira	..	8	1	2	..	6	17
	Total	..	17	8	3	2	19	49

Unhealthy on Act and non-Act population taken together.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
North Sylhet ..	Lubacherra	627	619	6	48	54	9·5	77·5	87·0

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
North Sylhet	Lubacherra	48	1	.....	.....	1	4	54

As regards the unhealthy gardens generally, the Deputy Commissioner writes—

"The following gardens were in the list in 1890 only, and not in 1889:

Sonarupa, | Lahkaicherra,

"whilst the remaining six were in the lists for both years, *viz.*,—

Rajghat ... ... } Unhealthy over the total population in 1889.
Kajuricherra ... }

Sindur Khan ... }
Fuskuri ... } Unhealthy only as regards Act-I coolies in 1889."
Gandicherra ... }
Barmacherra ... }

With the exception of Sonarupa and Lubacherra, all the unhealthy gardens have been inspected by the Civil Surgeon, and the following remarks are extracted from his reports:

LAKHAICHERRA (*inspected on the 30th March 1891*)—

"Of the Act coolies for the year 1890, five deaths are from diseases affecting aged people, *viz.*, from 55 to 65 and 70 years of age; many are due to the after effects of the influenza epidemic, as many as 150 of the coolies were ill at one time in hospital, whilst nearly the whole of the labour force were affected. Most of the deaths returned as 'pneumonia' were originally due to the above epidemic in the first place. Of the free labourers, the same epidemic affected them, both adults and children, and helped to swell the death rate. There were no cases of *anchylostomiasis* amongst those who died, or in the patients I saw at the hospital."

This garden was again inspected by the subdivisional officer on the 19th June 1891, with the result that the death rate for the period since the date of last inspection, 9th July 1890, was found to have fallen to 5·8 and 3·5 per cent. respectively amongst Act and non-Act coolies:

SINDUR KHAN (*date of inspection not given*)—

"This garden was visited by a committee in December 1890, and a full report was submitted by the Deputy Commissioner, to which I beg to refer. I visited the garden, and made particular enquiries about the health of the remaining coolies, which up to the date of my visit was especially good; very few on the sick list, and those not of very great importance. I may mention that one of the suggestions made by the committee to remove the balance of the coolies, principally Ganjam coolies, to another garden, and of whom all were suffering from *anchylostomiasis*, has proved highly beneficial to their general health; but at the same time this disease was not brought on by the garden, but was contracted by the coolies in their own country and then developed on arrival. The wells have been attended to, and new ones made. Lines and houses in first rate order, and drainage improved, as suggested in the report of the committee. A latrine was made, but it is difficult to make the coolies use it.

"'*Proceedings of a Committee held on 9th December 1890 on the Sindur Khan tea garden.*

"'Mr. J. Kennedy, Deputy Commissioner ... President.
"'Dr. T. d'OPartridge, Civil Surgeon, } Members.
"'Mr. Thompson, of Satgaon tea garden, }
"'Dr. Duncan, Medical Officer of the garden, was also present.

"'The committee first inspected the lines. They are on higher ground than the adjoining tea, are spacious, clear of jungle, and well drained. Some of the buildings have however very low mud plinths, but the manager stated they were to be pulled down and rebuilt this cold weather, when the plinths would be raised.

"'The water in the wells, six of which are *pucca*, was good and fit for use, two of the wells producing water which looked as clear as if it had been filtered.

"'The committee found the deaths were not in any particular lines or months or among any special class of coolies, though the coolies from Ganjam are perhaps the worst, but they all appeared to be among coolies imported within the last year or two. Thus, as to the four diseases, debility, dropsy, dysentery, and cholera, of which at least the first three especially indicate a weak state of health, the books show that of the deaths reported by Mr. Herald in his inspection report of 4th July 1890, the oldest coolie on the garden arrived in January 1889.

"'The committee went thoroughly through the books of the garden, but could find no further hint as to the cause of the mortality. All the Act coolies were mustered and examined by the committee, the manager for easy inspection having placed by themselves the most sickly. The committee found twenty men and forty-six women suffering from anæmia or *anchylostomiasis* among the Act coolies, and considered that they all should be removed to healthy gardens in the same interests along with their families to give them a proper chance. None of them were however hopeless, and it was not considered necessary to cancel any of the contracts. Ten non-Act men and fifteen non-Act women were also found suffering in a similar manner, and they also had better be transferred.

"'The committee considers that for the next year or two the manager should exercise great caution as to the class of coolies he admits to the garden. As to the very low average pay of coolies commented on by Mr. Herald in his inspection report of 4th July 1890, the committee would note that the low rate of pay was only in January 1890, not in the other month, September 1889, reported on, and it appears to have been owing to a mistake of the manager in his book-keeping that the pay was shown as so low, he having omitted to enter in his attendance register, from which the figures were taken, a considerable sum paid at contract rates to the coolies in January for house building. The committee was satisfied that the rate of pay did not require revision. The coolies entered in the annexed lists (not printed) clearly would not be affected by any practicable alterations in the rates of pay.

"'In conclusion then the committee has only two recommendations to make :first that the coolies in the annexed four lists (not printed) should be transferred to other healthy gardens in the same interests, and secondly that great care be taken for the next year or two in admitting coolies to this garden. The sardars should be made to alter the class of coolies to which they go for recruitment.'"

This garden was again inspected (on the 19th June 1891) by the subdivisional officer, who wrote :

"There was a committee on this garden on 9th December 1890. The committee had no fault to find with the lines, water supply, &c., but found that a number of coolies, of whom a list was made, should be transferred to a healthy garden of the same company. The committee also alluded to the rates of pay, but there is no cause for remark now on that point, except that the wages are very good.

The coolies to be transferred were :

Act-I ...	Men		20
	Women		46
Non-Act ...	Men		10
	Women		15

"These were not all transferred as recommended. The manager found that many of them were recovering, while on the other hand there appeared to be others worse. He therefore transferred a total of 77 people, including some, but not all, of those specially alluded to by the committee. Of those pointed out by the committee, two have since died.

"There is no doubt (as the committee ascertained) there is little that is unhealthy about the garden itself. The deaths occur amongst the newly-imported and weakly coolies. The death rate of Act coolies is still high, 6·5 per cent., but it is satisfactory to note that the deaths are generally less in the half year since the committee was held. Moreover, the average number of Act coolies is really larger than it seems, for 77 were transferred last March. If these were added, the death-rate is about 5 per cent."

The Deputy Commissioner in forwarding the above report writes :

"The recommendations of the committee held on this garden have been carried out with very satisfactory results. The rise in average wages is especially notable. The garden is naturally feverish, and I am afraid that it will not escape the black list this year, but the death rate is steadily diminishing."

FUSKURI (*date of inspection not given*)—

"*Free labourers.*—Total number of deaths for the past year 1890 has been of adults 6, of which 2 were cholera and in aged people 55 to 70 ; children 4, 1 still born.

"Of the Act coolies, 20 have died, of whom 4 were Ganjam coolies, who arrived in a very weakly state of health in 1889 and never rallied.

"There were four deaths from *anchylostomiasis* amongst Ganjam coolies ; they have been entered in the returns as from Madras by mistake of the manager.

"There were several deaths from chronic dysentery, and possibly also due to *anchylostomiasis*, but Dr. Duncan, the medical officer of the company, was doubtful of this, and there was one case of cholera."

This garden was again inspected by the subdivisional officer on the 19th June 1891, with the result that the death rate for the eleven months since the date of last inspection (7th July 1890) was found to have fallen to 4·8 and 1·09 per cent. amongst Act and non-Act coolies respectively :

"RAJGHAT (*date of inspection not given*)—

"*Free labourers.*—10 from pneumonia, due from the coolies having suffered from influenza in the first place, which rendered them susceptible to cold ; and, the season after June being exceptionally damp and cold, they readily took cold, and rapidly developed inflammation of the lungs, which proved fatal. Children 4 only.

"*Act coolies.*—Of the total number of deaths (43), 28 have been from *anchylostomiasis*, and mostly amongst the Ganjam imported labourers imported during 1889 and 1890 principally ; 7 from cholera. The remainder mostly pneumonia from the cold wet season after influenza.

"I saw at the hospital a large number of the coolies in various stages of the disease (*anchylostomiasis*). The native doctor, a most intelligent man from the North Western Provinces, has taken much pains in working out this disease, and is one of the few native doctors I have met with who evidently knows and recognises the disease and treats it at once and correctly.

"I saw details of upwards of 277 cases, and most of them were shown me at the hospital, where they had been paraded for inspection. They showed marked signs of the disease, and were in various stages of it, but on the whole most were improving. Those 277 cases had been recognised and placed under treatment principally from the 22nd January to the 23rd March of this year. Up to the date of my inspection (April) only two deaths had occurred, and the others were improving. It is scarcely possible but that other deaths should occur ; but I do not think that many will, as they were being treated skilfully and correctly ; and the after-treatment, *viz.*, good diet, stimulants—the latter an important factor I find in this disease—and tonics, was being carried out.

"The coolies who died in 1890 were principally from Ganjam, and a very sorry lot of weakly beings with *anchylostomiasis* already in them. They have been entered in the returns as from Madras, but this is a mistake, and they should have been entered as from Ganjam."

This garden was again inspected (on the 16th June 1891) by the subdivisional officer, who wrote—

"This is a garden that was inspected by the Civil Surgeon on account of its high mortality, which was found to be principally due to *anchylostomiasis*. The native doctor (who is an intelligent man, of whom the Civil Surgeon spoke highly) produced before the Civil Surgeon 277 cases of this *anchylostomiasis* all under treatment. That was in April. By the direction of the Deputy Commissioner all these coolies were paraded before me at my inspection (as well as the rest of the labour force). There have been no deaths among these 277, on the contrary, they are all improving, which is satisfactory. There seems reason to hope that the doctor will succeed in greatly reducing the death rate, which however is still high. It is not high among the non-Act population, and therefore I do not consider that there is anything specially unhealthy about the garden itself. (The Civil Surgeon does not find fault with the various arrangements). The deaths occur chiefly among the weakly coolies imported, especially those from Ganjam. I think the manager in sending sardárs to recruit should avail himself of the provisions of section 70 of the Act, so as to insure that coolies suffering from anæmia should not be brought to the garden."

The Deputy Commissioner in forwarding the above report remarks that the native doctor in charge of the garden will be asked to describe his treatment in detail with a view to have it adopted in other gardens suffering from *anchylostomiasis*.

KAJURICHERRA (*date of inspection not given*)—

"Of the free labourers.—Number of deaths for the year—of adults 17, 3 were aged coolies 50 to 70 years of age, 3 cholera, 3 probably *anchylostomiasis* entered as debility, 2 heat apoplexy, 2 phthisis, 2 pneumonia, 1 puerperal, 1 fever ; children 12, 2 cholera, several bronchial affections aggravated by influenza, which disease was very prevalent amongst the coolies.

"*Act coolies.*—Total 70. Of these upwards of 22 were old debilitated coolies of 55 to 65 and 70 years of age. Why these coolies should have been placed under contract at all is a mystery. Ten of cholera, 32 were from *anchylostomiasis* and arrived in this state. Most of them belonged to a very bad batch of 36 Ganjam coolies that were sent up to the garden. So bad were they and some of the other coolies that 40 of the worst cases were transferred to another garden of the company (Jagcherra), to see whether separating them and dividing them would do any good ; and by last accounts received of them the change has been of benefit to them. 45 of the deaths belonged to batches of most indifferent and weakly coolies sent up during 1889.

"The sick list is small, and there have been but few deaths since 1st January 1891 for this year."

This garden was again inspected on the 16th June 1891 by the subdivisional officer, who wrote—

"The death rate of Act coolies is very high (13·2 per cent.) Of the total deaths (77 Act and non-Act), 42 were from dropsy and debility, which I am told are really anæmia. The Doctor Babu says he is often successful in treating and curing cases of anæmia, but it would not appear so. Last March over 40 adult coolies were transferred to another garden of the Company, Jagcherra, which is said to be healthy for sickly coolies. This seems to have had a good result. Thus deaths of Act coolies in—

October	1890	7
November	"	12
December	"	13
January	1891	9
February	"	3
March	"	1
April	"	1
May	"	1

"The garden was inspected by the Civil Surgeon prior to the last inspection. He recommended chiefly that the plinths of the houses be raised, which has been done, but not to the extent recommended. The manager is fitting up a large filtering apparatus, which should give good water if the coolies will only drink it.

"Everything seems to depend on the prevention and cure of anæmia. I think there should be a more careful selection of coolies before importation. The garden itself is not so unhealthy as is seen from the low death rate of the non-Act population, *viz.*, 1·5 per cent."

The Deputy Commissioner observes—

"This garden was in a very unsatisfactory state during the last year, 1890. It remains to be seen if there has been any improvement this year. I shall await receipt of half year's statistics. If this does not show improvement, I shall recommend a committee being held to select coolies for transfer to other gardens of the Company."

BARMACHERRA (*date of inspection not given*)—

"*Free labourers.*—Adult deaths for last year 7—3 pneumonia, 2 *anchylostomiasis* from Ganjam, 1 cholera, 1 brain disease ; children, 3 cholera, 1 pneumonia.

"*Act coolies.*—23 deaths : 7 *anchylostomiasis*, 4 cholera. Almost all of them were imported in 1889 ; 10 of them from Ganjam and most indifferent and weakly coolies. The other deaths were from pneumonia, puerperal fever, phthisis, &c. During this year (1891) 8 deaths have occurred among these same coolies, 4 of whom have died of *anchylostomiasis*.

This garden was again inspected on the 16th June 1891 by the subdivisional officer, who wrote—

"Death rate among Act coolies is high. I attribute the cause here, as at Kajuricherra, to the poor class of the coolies imported. I can see nothing particularly unhealthy about the garden, lines, &c. Coolies that came to the garden healthy would, I believe, retain their health. The water-supply is not very good, but is not worse than most other gardens. Of the 22 deaths among Act coolies, 11 were of coolies from Ganjam.

"On the other hand, the non-Act labourers, children, &c., are healthy, and have only a death rate of 1·9 per cent."

The Deputy Commissioner observes—

"This garden has always been unhealthy for non-Act coolies. It shows signs of some improvement this year. The treatment of anæmic coolies will be adopted as at the next garden, Rajghat, in future.

GANDICHERRA (*date of inspection not given*)—

"*Free labourers.*—Adults 3—2 dysentery and 1 dropsy. Children 2, chronic diarrhœa.

"*Act coolies.*—Twenty deaths, principally amongst North Western Provinces coolies imported in 1888-89. They were on arrival found to be weakly, and suffering many of them from chronic dysentery and diarrhœa. It is doubtful whether some of them were not suffering with and from *anchylostomiasis*, but no worms were discovered, although the appropriate treatment (thymol) was tried.

"The manager here has introduced the so-called hotel system, and all sickly and weakly coolies are regularly fed, and their food properly cooked and given to them twice a day, instead of allowing each coolie the usual sick diet pay. It is found that the above system works most excellently, and the health of the coolies has greatly improved. By giving them pay it was soon discovered that, as is usual with North Western Provinces coolies, they starved themselves to save a few pice."

This garden was again inspected (on the 20th June 1891) by the subdivisional officer, who writes :—

"Death rate of Act coolies still high (6·4), but much less than last year."

With reference to Lakhaicherra, Sindur Khan, Fuskuri, Rajghat, Kajuricherra, Barmacherra, and Gandicherra gardens generally the Civil Surgeon remarks :

"I would point out that *anchylostomiasis* has been greatly responsible for the high death-rate, supplemented by most indifferent coolies imported from both Ganjam and the North Western Provinces. The agents, or whoever is responsible for the recruiting of such coolies, are mainly to blame, and should be taken to task for such gross neglect. Influenza had also much to do with the death rate. It was very prevalent last year in nearly all the gardens of the company, and although it did not at the time cause death, yet it so weakened those attacked that they readily fell victims to any cause, such as a chill which produced pneumonia and other allied diseases, and proved very fatal.

"This Company's gardens have so frequently been inspected, and show by the inspection reports the great care and attention paid to the well-being of their coolies, that I have not thought it necessary to enter fully into an account of the lines, water, or food supply. They are as near perfection as they can be. All the lines are well situated, equally well drained, and the houses large, roomy, and airy ; in fact, model coolie lines. The utmost care is taken to give the coolies good drinking water, and the bázárs are well supplied with everything. Drainage also is well and carefully attended to."

TARVINCHERRA (*inspected on the 23rd February 1891*)—

"This garden has been again unhealthy, the lines have also been moved again to another site adjoining the other garden of the same company (Anipur tea estate).

"I do not place much of the mortality to the site of the lines, but mainly to the class of coolies imported. I saw most of them in their lines. They (the coolies) were entirely from the North Western Provinces, horribly dirty in their persons and clothing ; their clothes appeared never to have been washed since they first put them on, black with filth and greasy to a degree. Undoubtedly many of the deaths were due to *anchylostomiasis*, which they had brought up with them.

"There are no Act coolies in this garden, all free labourers.

"The deaths for the first half year of 1890—Adults 4—1 dysentery, 1 hemoptysis, 2 fever ; children 1 fever, 1 ulcer.

"Second half.—Adults 17—4 dysentery, 5 diarrhœa, 1 cough, 2 fever, 1 abscess, 3 anæmia, and 1 dropsy ; children 9—4 dysentery, 2 diarrhœa, and 3 fever. The present state of the lines is on high ground and very open, more or less surrounded by cultivation, tea and *dhán*. They are amply drained and the houses well built in every respect. Numerous wells, which are protected from drainage, are supplied for drinking purposes, and the coolies are prohibited from using any other water as far as

it is possible. They have lots of cows belonging to themselves, and ample means of procuring food of all kinds at the *hát* held weekly, which is also well supplied with vegetables according to season.

"But here, as with North Western Provinces coolies, they will persist in trying to save every pice they make, and will not, in spite of precept and remonstrance, take a sufficiency of proper and nourishing food; consequently if they become ill and get into a weakly state, they succumb to the disease, whatever it may be, and die.

"There is a properly qualified native doctor, and Dr. Allen superintends.

"I also beg to state that 5 of the deaths were in aged people of over 50 to 75. Two of them aged respectively 65 to 75; also a death from cancer."

SONAKHIRA *(inspected on the 21st February 1891)*—

"*First half.—Free labourers.*—Adults 3—2 dysentery and 1 old age; children 3—2 diarrhœa, 1 throat disease.

"*Second half.*—Adults, 2 dropsy, 4 dysentery, 1 epilepsy, 1 debility, 1 ascites; children 2—1 fever, 1 diarrhœa.

"There are no Act coolies here.

"Most of these diseases are due to newly-imported coolies who arrived from the North Western Provinces suffering with and from *anchylostomiasis.*

"I saw the labour force, as it was pay day, and pointed out to the manager one or two cases, and he then said the coolies who died mostly were like the ones I showed him.

"The lines are well situated on high *tilas*, well drained both artificially and naturally; houses well built and of good materials; the water also good from wells, and there is an ample supply of them. Coolies are prohibited from drinking from other sources as far as possible.

"There is a bázár near the garden, and amply supplied with vegetables according to season.

"There is a native doctor in charge, but there are a number of gardens round about here, and I think it would pay the gardens to entertain a European medical man. At present Dr. Allen from Chargola attends on urgent cases, but I should imagine an arrangement could be made for him to visit at certain stated intervals.

"There were no sick on the day of inspection except one or two I pointed out as suffering from *anchylostomiasis.*

"No deaths had occurred up to the date of inspection for this year, 1891."

Unhealthy gardens in Kámrúp.

43. The following statements give particulars regarding the unhealthy gardens in Kámrúp, and show the causes of the deaths which occurred:

Unhealthy on non-Act population.

Subdivision.	Name of garden	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Gauháti	Rani	68	63	8	5	13	117·6	79·3	196·9
	Ramsha Hill	68	110	13	13	26	191·1	118·1	309·2
	Total .. .	136	173	21	18	39	154·4	104·0	258·4

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Gauhati	Rani	..	..	13	..	..	..	13
	Ramsha Hill	..	..	26	..	..	..	26
	Total	..	..	39	..	..	..	39

Unhealthy on Act and non-Act population taken together.

Sub-division.	Name of garden.	Mean strength.		Deaths			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Kámrúp . ..	Chunsali	441	394	43	37	80	97·5	93·9	191·4
	Bordwar	332	317	13	11	24	40·3	34·7	75·0
	Luri	244	201	15	10	25	61·4	49·7	111·1
	Chandrapur	246	305	14	22	36	56·9	72·1	129·0
Gáuháti ..	Mandakata	217	198	5	14	19	23·0	70·7	93·7
	Sonapur	471	456	14	31	45	29·7	67·9	97·6
	Total	1,941	1,871	104	125	229	53·5	66·8	120·3

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Kámrúp	Chunsali	5	2	64	....	1	8	80
	Bordwar	....	....	13	1	....	10	24
	Luri	....	8	3	2	....	12	25
Gauháti	Chandrapur	9	7	4	....	2	14	36
	Mandakata	10	....	6	....	....	3	19
	Sonapur	1	11	11	....	1	21	45
	Total	25	28	101	3	4	68	229

There were no gardens unhealthy on Act population only.

Only two unhealthy gardens, Chunsali and Bordwar, have been inspected by the Civil Surgeon, and the following remarks are extracted from his reports:

CHUNSALI *(inspected on the 5th February 1891)*—

The Civil Surgeon reports that *kála-azár* accounts for 58 deaths, and that a number of the coolies are still suffering from this disease. He remarks as follows:

"The only way to prevent the spreading of *kála-azár* is to aim at good conservancy and good water. As the lines are on high ground, it is only necessary to see that no place near the lines is used as a latrine, and that the coolies go some distance from their houses and away from their water supply, so that it cannot become contaminated when they relieve nature. Water supply is the most important matter to be attended to. All the wells are situated in such a place that the surface drainage from the lines contaminates the water. They are uncovered, and have no pumps, so that the wind can carry dust, &c., into them, and the coolies in drawing water are apt to pollute them. New wells in proper sites, made *pucca* for some way down, should be built, so that no surface drainage can pollute them. They should be covered over, and have pumps attached to them. A reservoir should be attached with taps to enable the coolies to get water readily, and a coolie should be kept to pump water morning and evening into the reservoirs."

The Deputy Commissioner writes:

"A copy of the above remarks was sent to the manager. He informs me that the Civil Surgeon's recommendations are being carried out, new wells being in course of construction, wire lining for same and pumps having been ordered from Calcutta."

BORDWAR *(inspected on the 9th June 1891)*—

"*Kála-azár* is very prevalent here. In gardens in Upper Assam this would be called anæmia in most cases. It is in 75 per cent. of cases purely *anchylostoma* or *dochmius duodenalis*. The wells are open, unprotected, and in one case in the middle of the lines it is certain to suffer from contamination, as the surface drainage must run into it. The manager informs me this will be stopped, and Norton tubes used. This has already been done in one set of lines.

"The improvements necessary are—

"(1) Water-supply, *i.e.*, close the contaminated wells, and use Norton tubes or other pump arrangements.

"(2) New houses to be improved.

"(3) Jungle near lines to be cleared.

"Otherwise the coolies are well cared for, and garden arrangements good."

The Civil Surgeon should be directed to inspect without delay the other unhealthy gardens, and his reports should be submitted to the Commissioner for the issue of such orders as may be necessary. There can be no doubt that the unhealthiness of the gardens is largely due to the prevalence of *kála-azár*, and the Chief Commissioner is separately considering what steps can be taken to arrest the progress of this disease.

Unhealthy gardens in Darrang.

44. The following statements give particulars regarding the unhealthy gardens in Darrang, and show the causes of the deaths which occurred on them:

Unhealthy on Act population.

Subdivision.	Name of garden.	Mean strength. First half year.	Mean strength. Second half year.	Deaths. First half year.	Deaths. Second half year.	Deaths. Total.	Ratio per mille. First half year.	Ratio per mille. Second half year.	Ratio per mille. Annual.
Tezpur	Barjuli	1,090	1,178	35	51	86	32·1	43·2	75·3
	Dolupadong	364	378	10	17	27	27·4	44·9	72·3
	Sonajuli	414	517	11	38	49	26·5	73·6	100·1
	Sadharungpop	197	213	3	12	15	15·2	56·3	71·5
Mangaldai	Panbari	147	166	2	10	12	13·6	60·2	73·8
	Bhergaon	108	94	5	7	12	46·3	74·4	120·7
	Total	2,320	2,546	66	135	201	28·4	53·0	81·4

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Tezpur	Barjuli	....	15	21	12	18	20	86
	Dolupadong	4	6	4	3	1	7	27
	Sonajuli	4	15	3	5	7	15	49
	Sadharughop	1	3	1	1	3	6	15
Mangaldai	Pasbari	....	3	1	3	....	5	12
	Bhergaon	2	2	3	4	....	1	12
	Total	11	46	33	28	29	54	201

Unhealthy on non-Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Tezpur	Tarajuli	130	139	5	12	17	38·4	86·3	124·7

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Tezpur	Tarajuli..	..	1	2	2	2	10	17

Unhealthy on Act and non-Act population taken together.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Tezpur	Gellahating	471	467	15	25	40	31·8	53·5	85·3
	Ghogra	145	143	4	9	13	27·5	62·9	90·4
	Total ..	616	610	19	34	53	30·8	55·7	86·5

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Tezpur	Gellahating	7	9	5	2	7	10	40
	Ghogra	..	3	2	..	..	8	13
		7	12	7	2	7	18	53

As regards the unhealthy gardens generally, the Deputy Commissioner writes—

"Of the above gardens, Gellahating has been on the unhealthy list continually since 1887, Dolupadong appeared in 1886 and 1887, Sadharughop in 1888, and Bhergaon in 1889. Ghogra is a small outlying garden far from bázárs and situated close to the foot of the Dafla hills. It has been abandoned since the close of the year. I visited it shortly before it was closed. I fancy its unhealthiness was chiefly due to the fact that it did not pay, and that it was economically managed."

All the unhealthy gardens have been inspected by the Civil Surgeon, and the following remarks are extracted from his reports :

BARJULI (*date of inspection not given*)—

"The high death rate was due to anæmia, dysentery, and fever. Out of 86 deaths, 30 of the Ganjam and Telegu castes died within a few months of their arrival in the garden. This lot was of inferior physique. Again, during this month (March) 13 died from cholera, which is brought in by the newly-imported coolies. The manager is trying his best to stop the epidemic by segregation.

The lines and water supply require no comment. The Manager proposes to build a *pucca* hospital next year. At present the sick are looked after in their lines. Has got a good experienced doctor Babu, and Dr. Price lives in the garden. Mr. Moore takes great interest in the welfare of his coolies. Coolies mustered and inspected. Children are well looked after."

With reference to the above remarks the Deputy Commissioner writes—

"I see no reason to differ from Dr. Borah's view of the mortality on this garden, but it is disappointing to find that the Ganjam coolies, who form a daily increasing proportion of the importation of the district, are standing the climate so badly. If this goes on, it will be necessary to stop importation from Ganjam—a serious matter for the tea industry, already hard pressed to obtain an adequate labour supply."

DOLUPADONG (*date of inspection not given*)—

"The death rate in—	Act.	Non-Act.
1888	11·96	0·63
1889	4·56	3·08
1890	7·23	1·97

"The deaths in 1890 are cholera 4, dysentery 8, fever 4, dropsy 3, anæmia 1, other causes 7 among the Act, and dysentery 3, fever 2, anæmia 2, other diseases 2, among non-Act coolies.

"2. Recommended for two *pucca* wells with pump and cistern in the lines.

"3. A new hospital with cemented floor is also recommended.

"4. Coolies mustered, and found 40·71 per cent. suffering from anæmia, *i.e.*, *beri-beri*.

"5. Foodgrains from the garden shop examined and found of good quality, rates 10 to 13 seers of rice per rupee according to quality.

"6. Classification of anæmia of coolies explained."

The Deputy Commissioner writes—

"It is astonishing to find so large a percentage as 40 per cent. of the coolies suffering from *beri-beri*. Dr. Borah does not say whether the thymol treatment has been tried. He will be asked to supply this information. The garden is situated in an open and healthy-looking part of the district."

SONAJULI (*date of inspection not given*)—

"Cholera and bowel-complaints are the chief causes of mortality.

"The coolies mustered and found 37·6 per cent. of anæmia among them.

"Children are generally looked after, and the manager, Mr. Thompson, takes great interest for the welfare of his coolies.

"Sanitary state of the garden is good."

SADHARUGHOP (*date of inspection not given*)—

"The deaths in 1890 were—

	Act.	Non-Act.
Cholera	1	1
Dysentery	3	4
Fever	1	1
Dropsy and debility	1	1
Anæmia	3	1
Other causes	6	1
Total	15	9

"In the 'other causes' there were four deaths from epilepsy, fracture of the skull by fall, burn, and puerperal fever; if they were excluded, the death rate will be 4·85. The deaths, though unavoidable, increased the mortality over 7 per cent. The lines are greatly improved since my last inspection, and Mr. Steele, the manager, has drawn up some sanitary rules in order to keep the lines neat and clean by the agency of chaukidárs, and a few men kept for the purpose to clear away rubbish, &c. Children are looked after, especially the sick ones. Coolies mustered, and found 50 per cent. of *anchylostomiasis*."

The Deputy Commissioner writes as follows:

"This also is a garden in which *anchylostomiasis* prevails. The garden is situated in the open Bisnath plain, and there is not much jungle in its vicinity. Women's wages are not very high, but the general average is not bad. The garden will be carefully watched, and if health does not improve, I will call a committee."

PANBARI (*date of inspection not given*)—

"Although this garden is on the black list, the percentage of mortality, 7·38 in 1890, is nothing out of the ordinary fluctuation of death rate. Four cases of pneumonia due to (not from the insanitary condition) the climatic changes, and one woman died from puerperal fever, which necessarily brought the death ratio over 7 per cent. Lines and water supply are good. No marked sanitary defects are noticed. Coolies paraded, and found them generally healthy. The children are well looked after. No further comments needed."

The Deputy Commissioner writes—

"The garden, like most Mangaldai gardens, is a small one, and percentages are necessarily misleading in such cases."

BHERGAON (*date of inspection not given*)—

"In 1890 deaths were 2 from cholera, 2 dysentery, 3 influenza, 2 dropsy, diarrhœa 2, and debility 1, total 12 among Act, and 7 deaths non-Act coolies.

"The high death rate was due to cholera and influenza, and if 5 deaths were deducted the percentage would be 5·88. This death rate was unavoidable. Besides, there were several deaths among the newly-imported Ganjam Telegu coolies, who were of indifferent health, and were evidently not suited to this climate. The sanitary arrangements are good. The coolies mustered and inspected. Lieutenant Howell inspected this garden on the 6th of this month. No death nor sick since. Children are looking healthy. There is a shop in the garden. Foodgrains found of good quality, and sold at 20 seers per rupee."

TARAJULI (*date of inspection not given*)—

"The high death rate was due to cholera. It appeared in Act and non-Act coolies with 11 deaths. It has not yet entirely stopped. The manager is taking every precaution to prevent further occurrence. The present man is not even a qualified compounder. A duly qualified man ought to be entertained.

"Coolies mustered, and found 27·5 per cent. of anæmia cases among them.

"Children are, as a rule, a healthy lot. No shops in the garden. Coolies buy eatables in the markets.

"The registers are not kept as prescribed in Rule 138."

Proceedings of a committee of inspection under section 128, Act I of 1882, held on the Gellahating garden on 15th December 1889.

Present :

R. B. McCabe, Esq., Deputy Commissioner, Darrang.
Surgeon-Major Borah, Civil Surgeon.
A. Showers, Esq., Manager of the Bishnath Tea Company.

"This garden, which is most carefully managed, has for some time past had a very high death rate amongst its coolies.

"The coolies were all mustered :

Men.	Women.	Boys.	Girls.	Total.
153	126	86	70	435

of these 138 were suffering from anæmia and 25 from Nága ulcers.

"These coolies were almost entirely sent up by contractors and are a very inferior *jat*.

"The lines are well situated on high ground with good drainage. The houses are substantially built on well raised plinths and are in good repair.

"The Civil Surgeon reported the water supply to be excellent. Near the lines the committee noted a piece of low marshy land covered with jungle and recommend that this swamp be cleared, and planted with rice.

"The manager promised to put this work in hand at once."

GELLAHATING (*date of inspection not given*)—

"This garden is again in the black list. A committee was held under section 128, Act I of 1882, on the 15th December 1889. The swamp referred to by the committee is kept free from jungle, but not yet drained and converted into rice field for want of sufficient labour, so the manager stated in his letter dated the 22nd July 1890, to the Deputy Commissioner. The Deputy Surgeon General, Dr. Costello, who also inspected with me, recommended Australian gum tree plantation, which the manager is going to do this year. The lines are well situated on high ground with good drainage. The coolies bathe in the Dikrai stream. The drinking water is obtained from the *pucca* well, which is fitted with pump, cistern, and taps. Water good, and no chance of contamination. No conservancy. The hospital, the floor of which is cemented, is well provided with medicines and appliances. A qualified compounder is in immediate charge under Dr. McIntyre. The coolies were sent up by the contractors, and are a very inferior *jat* and physique. Fifty-six per cent. of *anchylostomiasis* was found among the labour force, of which 36 per cent. was detected among the newly-imported coolies. Under the circumstances it is no wonder the sickness and mortality of the garden are so high.

"The death rate—

	Act.	Non-Act.
In 1888	12·92	6·40
„ 1889	11·62	9·27
„ 1890	11·71	5·87

"*Recommendations.*—In order to minimize, if not put a stop to, the percentage of *anchylostomiasis*, and consequently of high death rate, it is necessary to have a systematic medical inspection of the coolies at least once a month to pick out anæmia cases, who are to be segregated in separate blocks of lines with their drinking water and conservancy arrangements quite apart from the others. Good regimen and thymol treatment are to be adopted from the beginning. A diplomaed man of some experience is to be entertained to carry out the above under Dr. McIntyre's superintendence."

The Deputy Commissioner writes—

"The garden will be carefully watched, and if the Civil Surgeon's recommendations are not carried out, a second committee will have to be held. It is clear that the garden is one for which recruiting ought to be very carefully supervised. But that means expense, and agents and owners are not always alive to their real interests in this matter."

GHOGRA, the next garden on the list, has been, at all events for a time, abandoned.

45. The following statements give particulars regarding the unhealthy gardens in Nowgong and the causes of the deaths :

Unhealthy gardens in Nowgong.

Unhealthy on Act population.

Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
	First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Ramsing grant ...	256	270	24	9	33	93·7	33·3	127 0
Sokunbari	124	118	5	5	10	40·3	42·3	82·6
Total	380	388	29	14	43	76·3	36·0	112·3

Causes of deaths.

Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Ramsing grant	11	5	2	.....	2	13	33
Sokunbari	5	2	.....	.....	.....	3	10
Total	16	7	2	.....	2	16	43

Unhealthy on non-Act population.

Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
	First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Amguri	60	56	10	1	11	166·6	17·8	184·4

Causes of deaths.

Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Amguri	10	1	.....	.....	... .	.....	11

Unhealthy on Act and non-Act population taken together.

Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
	First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Owguri	160	171	12	3	15	75·0	17·5	92·5
Old Salona	224	230	11	9	20	49 1	39·1	88·2
Total	384	401	23	12	35	59·8	29·9	89·7

Causes of deaths.

Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Owguri	2	.....	6	.....	1	6	15
Old Salona	6	3	1	.....	.....	10	20
Total	8	3	7	.....	1	16	35

In the preceding year six gardens were unhealthy in the Nowgong district, and there has therefore been considerable improvement. All the gardens which appeared on the unhealthy list in 1889 were twice inspected during the year under report, and with one exception (that of Owguri) some of them appear on the present list. The acknowledgments of the Chief Commissioner are due to Major Gray, the Deputy Commissioner, and to Dr. McNaught, the Civil Medical Officer, for the thorough manner in which they have dealt with this branch of the work.

Ramsing grant and Sokunbari were unhealthy over the Act population only. As regards the Ramsing grant, the Deputy Commissioner writes—

Ramsing grant.

" This is one of the gardens belonging to the Salona Tea Company. In the year 1884 a committee sat upon this garden and made a few recommendations, as the garden had previously appeared on the unhealthy list in 1882 and 1883. Its adjacent gardens, Hatibandha and Nowpani, were closed to Act labourers who have been

in Assam less than two years. This garden since then has improved much. But a serious outbreak of cholera in 1890 has thrown back the garden into the unhealthy list. There were 26 deaths from cholera alone, 11 were among Act and 15 were among non-Act. I personally visited this garden on the 12th August 1890, and enquired into the cause of the outbreak of cholera in this garden. The remarks then I recorded are given below.

"The only point I had to recommend was the construction of sheds over all the wells and their iron cisterns. The manager promises to carry out the suggestion as soon as possible.

"There has been a severe outbreak of cholera somehow this year. It occurred in May last, 23 deaths resulted from cholera alone. The cause is attributed to the water supply having run short just about that time in the two *pucca* wells in the Bengali labourers' lines, and to the fact when this occurred the *pucca* wells in the Cachari lines were resorted to, where the same strict rules had not been enforced as regards the use of one specially-appointed bucket for drawing water (the Cacharis having always been accustomed to use their own vessels indiscriminately), and also with regard to the keeping of the immediate surroundings of the wells scrupulously clean. There can be but little doubt that these causes combined to pollute the water of these wells, but the employers plead that they had not the same degree of control over their Cachari free labourers as they had over Act coolies and other Bengali and imported people. Under these circumstances, however, the Cachari wells should not have been brought into use obviously. Since the outbreak of cholera, however, the manager has taken action in various ways to remedy matters, the wells in question have been thoroughly cleaned out and lime put down there; iron cisterns with brass taps have been added, and the drawing of water has been prohibited to all but certain Bengali coolies specially appointed for the purpose, and hence the indiscriminate use of their own vessels by others has been wholly stopped. The surroundings of the wells are moreover kept as carefully clean as in the case of all other wells in the Bengali lines, all which seems to prove that when they choose the managers can insist on doing the proper thing in such matters, even though they may not have the same degree of legal authority over their free Cacharis.

"On receipt of the first half-yearly returns, I found that this garden would come on to the list of unhealthy gardens for the year under report, so I deputed the Civil Medical Officer in December to make a special inspection of this garden. He went out accordingly. The date of his medical inspection was the 13th December 1890. The recommendations both of Dr. McNaught and myself were sent on to the manager for his guidance and prompt action. I am glad to report that the manager is apparently doing his best to give effect to the sanitary measures recommended. The death rate among non-Act labourers is 4·86. It is healthy as regards this class of labourers. A copy of the Civil Medical Officer's remarks is herewith reproduced."

The Civil Medical Officer's report was as follows :

"The strength of the labour force was—

	Act I.	Non-Act.
Men	138	201
Women	126	206
Boys and girls	...	335
Infants	...	56
Total	264	798

"*Lines and drainage.*—The lines are favourably situated on a sufficiently-elevated open space, and not liable to inundation. The houses are mostly of sundried brick walls, a few being *ekra* mud plastered, each being arranged for two families. It is intended to construct the whole of the lines of sundried bricks; the roofs are of thatch and they are all repaired once a year. There are good drains between the lines of houses; these have a good outfall.

"*Latrines.*—There are no latrines. The people frequent the spaces between the tea bushes and the jungle. There are a number of pigs belonging to the coolies, and it is well known what useful scavengers these are! There was no fæcal odour apparent.

"*Food.*—There is a weekly market held at Salona about 4 miles distant, where food in all varieties is obtainable. It is held on Sunday, so that the coolies have an opportunity of going to it. Rice is also largely imported from Bengal and supplied to the coolies. There are two shops near the lines, in which the ordinary food articles are sold. I examined the rice, *dal*, salt, &c., in both these shops, and found nothing objectionable in the quality of the articles of food except that in one shop the *dal* was rather dusty, and this was pointed out to shopkeeper and manager, and directions given to have it cleaned properly. As far as could be learned, the food eaten by the coolies is sufficient, but as they buy and cook their own food, except in some few instances, it is difficult to control the quantity or quality of food eaten by them, but where possible the use of diseased meat or unfit articles of food is prohibited by the manager. Some of the people have cows, and they use the milk for themselves. In the hot weather and rains there is sufficient time given them to cook their food.

"*Hotel and dieting.*—There is a system of dieting the weakly coolies and the sick at the hotel. There is a separate cook house and dining shed near the hospital buildings. The sick receive such extra diet as is ordered for them by the medical officer. It could not be ascertained that any classes of coolies suffered from change of diet. For cooking as well as for drinking only well water is used.

"*Water supply.*—The water supply is from three *pucca* wells; these have a thatched roof over each of them. The water is drawn by coolies specially appointed by means of a large tin and rope, and is filled into an iron cistern, from which the coolies draw the water by means of a tap. The supply is ample and good. The mouths of the wells are slightly raised above the level of the ground, they are not closed in by boards and trap doors as in some places. Wells should have close fitted covers with trap doors, or if under a roof should have the edge raised by brickwork to about 2½ feet, and the edge finished off to a thinness sufficient to prevent any one standing upon it; this prevents drippings from falling back into the well. The wells were cleaned out. The surroundings are clean, drained

properly, and in good order. I recommended to manager that covers should be properly fitted to the well mouths with trap door. Where the coolies are working at a distance, water is taken to them by water carriers, so as to remove the temptation of drinking foul or doubtful water from other sources. The people are prohibited from drinking or cooking with the water from streams. As noted in the inspection report, one of the wells ran dry for a short time, and a suspicion fell upon the promiscuous use of utensils to obtain water from the Cachari lines well, but it could not be certainly shown that this was the cause of the cholera outbreak.

"The gardens of this Company are supervised by Dr. Rudduck. The native doctor is Preonath Chatterji, a vernacular licentiate of medicine of the Campbell Medical School. I saw his diploma. There is a dispensary and a proper supply of medicines kept under charge of the native doctor, who resides here. The stock is replenished, as required, from the headquarters at Salona. I noticed and pointed out to manager and to Dr. Rudduck that several poisonous drugs were kept openly on a *chang* along with other medicines. As it did not appear to me that poisonous drugs are properly kept, I directed that these were to be separated and stored in a cupboard or box so as to lessen liability to accidents. I think that some general rules are required about custody of poisonous drugs on tea gardens.

"On the 13th December there were 20 on the sick list. The diseases were weakness, anæmia, dropsy, dysentery, fever, syphilis, and accidents.

"*Beri-beri* used to prevail largely, but since the use of thymol it is neither so prevalent nor near so fatal. A special register used to be kept of the cases treated by thymol, but it is now considered unnecessary, but many cases of *beri-beri* are treated every year by Dr. Rudduck with great success. Those under treatment are properly fed and cared for.

"The name of *kála-azár* is not in use in this district, and no cases are called by it.

"The mortality from 16th August 1889 to 13th December 1890 was 90, *viz.*, 35 Act persons and 55 non-Act. Of the Act persons, 23 were men and 12 women. The non-Act comprised 25 men, 12 women, and 18 children. Analysis of the deaths recorded show that the causes were —

Cholera	26
Pneumonia	10
Old age	11
Dysentery	9
Fever	6
Bronchitis	6
Debility	4
Diarrhœa	3
Anchylostomiasis	3
Influenza	2
Convulsions	2
Dropsy	1
Abortion	1
Other diseases	4
Unspecified	2
Total	90

"Cholera broke out on the lines on the 11th May 1890 in epidemic form. Deaths occurred on the following dates :

		Comprising	
		Act I.	Non-Act.
11th May	5 deaths.		
12th "	2 "		
13th "	3 "		
15th "	2 "		
16th "	2 "		
17th "	3 "		
18th "	1 "		
19th "	3 "		
20th "	2 "		
21st "	*Nil.*		
24th "	2 "		
Men		7	7
Women		4	5
Children		...	3
Total		11	15

"Previous to this outbreak one death occurred on 21st April, a man named Mundoo, who arrived in the garden in June 1885.

"Amongst these their arrival on the garden was in—

April 1890	2
March "	1
February 1890	3
In year 1889	6
" 1888	4
" 1887	2
Other years	2
Unspecified	6
Total	26

The cases occurred very generally over the lines and were not confined to any particular class or to any part more than another. The epidemic lasted only about eleven days. There was no vacation of the lines. The usual disinfection was done. The cause of the outbreak cannot be satisfactorily traced.

"The general health of the coolies now is good, there is little sickness at present. Vaccination is now being done. The children are cared for and appear generally healthy. Hitherto this garden has been healthy on the whole, and had it not been for the epidemic outbreak of cholera would not have been classed as unhealthy in present year.

The death rate was—

	1887.	1888.	1889.	Inspection up to August 1890.
Act	2·48	4·30	2·37	10·85
Non-Act	3·63	7·46	5·61	5·20

"The recommendation made by the Deputy Commissioner at his inspections that sheds should be constructed over the wells has been carried out. The general medical and sanitary supervision of the garden is satisfactory."

In regard to Sokunbari the Deputy Commissioner writes—

"This garden is the headquarter of the group of gardens comprising the Kondoli division of the Salona Tea Company. It employs both Act and non-Act coolies. It appeared in the unhealthy list of 1886. Since then, it has improved much. But an outbreak of cholera contributed much towards increasing the percentage of the mortality in the garden this year. Out of 10 deaths, all from cholera, 5 were among Act coolies, and 4 were among non-Act coolies. Dr. Rudduck visits this garden once a month. and the residing native doctor is stated to be a passed student of the Campbell Medical School. The death rate is heavy among Act labourers, that of the non-Act labourers being only 3·44 on an average of 646 souls. It was twice inspected during the year under report. Dr. McNaught visited this garden on the 15th August 1890, while he was on his periodical inspection duty. The special medical inspection after the garden had been found unhealthy is dated the 25th March 1891. A copy of his remarks in herewith attached. These show that there are really no instructions to be specially urged on the manager for action in any particular direction."

Sokunbari.

Dr. McNaught's inspection report dated the 25th March 1891 was as follows :

"The manager is Mr. A. A. K. Campbell. The following is the strength on the day of inspection :

	Total.	At work.	Not working.	Sick.	Absent. With leave.	Absent. Without leave.
Act coolies.						
Men	57	51	...	3	3	...
Women	57	44	...	5	8	...
Total	114	95	...	8	11	...
Non-Act.						
Men	131	101	5	15	4	6
Women	113	97	5	7	4	...
Boys	80	28	40	4	...	8
Girls	72	24	39	3	...	6
Infants	86	...	83	3	...	...
Total	482	250	172	32	8	20

"The sick list comprises the usual ailments,—fevers, cough, debility, diarrhœa, &c. During 1890 the deaths were Act 10 with percentage of 8·26 and non-Act 18 with percentage of 3·49.

"The deaths occurred under the following heads :

	Act.	Non-Act	Total
Cholera	5	5	10
Debility	...	1	1
Fever	...	3	3
Beri-beri	...	1	1
Dysentery	2	2	4
Diarrhœa	1	...	1
Pneumonia	1	1	2
Pleurisy	...	1	1
Bronchitis	...	1	1
Childbirth	1	1	2
Others	...	2	2
Total	10	18	28

"The death rate of Act coolies in 1889 was 2·34. At an inspection of the whole of the Act labourers, six persons, all women, were pointed out as suffering from *beri-beri* and in need of the thymol treatment. This treatment has been extensively used during the past several years with marked good results. A list of those so treated is kept. Generally speaking, the coolies are healthy and cared for.

"The Hospital Assistant is Hedayatdin, and Dr. Rudduck visits once a month.

"There is an ample supply of medicines. There is a dispensary, where the sick are seen and prescribed for every morning, those unable to attend are attended to in their huts.

"Those requiring it receive extra diet, such as milk, sago, soup.

"There were six births registered during the year. Vaccination has been extensively done in the past cold season.

"The water-supply is from two *pucca* wells, these are covered over and fitted with pumps. Water from the wells is supplied to the coolies at work at a distance from the lines.

"The site of the lines is a good one, well drained, not subject to inundation, and they are in good order and clean.

"There are no latrines; the people frequent the spaces between the tea bushes,—these spaces are regularly hoed up; the jungle is also used.

"Provisions are cheap and readily procurable at the Rangati *hát* held every Sunday. It is only a mile distant. All sorts of country vegetables, fowls, pigeons, ducks, goats, &c., at fair rates are obtainable during the past half year. Rice has been quite cheap, four annas for five-seer measure.

"The people seem to be fairly well off, contented, and healthy, and had it not been for a few cases of cholera in June and July, there would have been no excess in the death rate. The cause of the cholera was not clear, but the district villages suffered from cholera at the time. The people are prohibited from drinking the water from the stream, and they certainly have no occasion to do so. There was no sudden change of diet. The hours for labour and the time for cooking food are the same as obtain in other gardens. There were no previous instructions uncomplied with. When cholera has been reported amongst batches *en route* or on the steamers, segregation is carried out.

"There is nothing else special to remark."

In regard to Amguri, which is unhealthy over the non-Act population, the Deputy Commissioner writes—

Amguri.

"This is a small garden employing principally local free coolies. It is under the same management with the Palkhai tea estate. This garden has not appeared on the unhealthy list of previous years. All of the deaths on this garden were from cholera with the exception of one death due to dysentery. Dr. McNaught visited the garden on the 13th July 1890 and again on the 13th March 1891 after finding that this garden had been declared unhealthy in 1890.

"A copy of his remarks is given below :

"'This is an outgarden of the Palkhai tea estate in charge of Mr. J. B. Atkins. There is a muharrir in charge. The area is said to be 80 acres. There are no Act-I labourers. The strength on day of inspection was non-Act—

Men	31
Women	14
Children	8
Infants	9
Establishment	5
Total	67

"'Of these, 27 men, 12 women, and 8 children were at work. They were not mustered. The coolies comprise Kacháris, Nepalis, and Bengalis.

"'During 1889 the death rate was 1·4 for non-Act, Act I none. There were 10 deaths in the first half of 1890, with a percentage of 16·66, and one death in second half, with a percentage of 1·78. Total 11 deaths and 18·44 per cent., all non-Act.

"'During 1891 there has been no death. Thus, figures indicate that some exceptional cause has been at work to cause the high percentage of mortality, and this was found to be an outbreak of cholera, which occurred in April 1890. The disease is said to have been introduced with a batch of Kachári coolies that came to the garden. One of these had cholera on the road, and arrived at the garden suffering from the disease. After this during 11 days there were 10 deaths, including the first man referred to, *viz.*, 6 Kacháris, 2 Nepalis, 2 Bengalis, comprising 6 adults and 4 children, since which the garden has been healthy. There has been one death since the outbreak of cholera, *viz.*, one girl from other causes. The lines are on a good site on the raised plateau of the garden, and close to the trunk road; there is good natural drainage, and the lines are not subject to inundation. The houses are in good repair, and the place is fairly clean.

"'The people frequent the market at Jaklabandha, about 4½ miles distant, where common rice was being sold at 5 annas per measure of 5 seers. There is a shop on the garden also, the articles sold in it were examined and found to be good.

"'The drinking water is from a small stream that flows from the hills and passes by the lines. There is no well, and it is quite probable that if one was provided the people would not use it. The water of the stream is of course quite unprotected, bathing, washing of clothes and vessels, &c., are carried on in it. Under such circumstances it would be easy to contaminate the water by cholera discharges. There is a supply of simple medicines kept at the garden in charge of the muharrir and administered by him. The supply is replenished from the stock at Palkhai. There is nothing else requiring special remark.'"

As regards Owguri, the Deputy Commissioner writes—

"This garden employs both Act and non-Act labourers. It appeared on the unhealthy lists of 1889, 1888, 1884, 1883, and 1882. It has again appeared on the unhealthy list of 1890. It has been continuously on the unhealthy list for three consecutive years. In the year 1889 the death rate was slightly over 7 per cent., the number of deaths being 11 (5 Act and 6 non-Act). The death rate in the year under report is 9·25 on the whole labour force of the garden, *viz.*, among Act 5·55 only, but among the non-Act 10·99. It is the deaths among the non-Act coolies that have raised the percentage of mortality to the unhealthy limit. In the previous year the death-rate was heavy among the Act labourers only. This garden was subjected to much inspection during the year. Dr. McNaught inspected it on the 29th March 1890. It was again inspected by me on the 13th September 1890

"The mortality on this garden for the last three years—

	1890.	1889.	1888.
Act	5·55	8·44	13·81
Non-Act	10·99	6·31	21·81

The garden was again inspected on the 31st March 1891 by Dr. McNaught, who reported as follows:

"The last inspection was on the 13th September 1890. The manager is Mr. A. H. Green, who resides at Killing. The strength on day of inspection was—

	Total.	At work.	Not working.	Sick.	Absent with leave.
Act—					
Men	24	24	...	...	...
Women	17	14	...	1	2
Total	41	38	...	1	2
Non-Act—					
Men ...	30	28	...	1	1
Women ...	32	31	...	...	1
Children	72	17	55	...	...
Total	134	76	55	1	2

"The death-rate—

	For 1890. Number.	Per cent.	For 1889.
Act	3	5·55	8·44
Non-Act	12	10·99	6·31

"There have been only two deaths since the previous inspection on 13th September, both non-Act persons, children. The deaths were due to cholera, respiratory affections occurring during influenza, and fever. The sick are treated in the lines, but should any be more seriously ill, they are sent to Killing, which is now the headquarter garden. There is but little sickness now, and the coolies are healthy. There have been 4 men, 3 women, and 3 children treated with thymol during the past year.

"No *beri-beri* cases now.

"There have been 10 births in 1890 and 4 since.

"Twenty-four children have been successfully vaccinated during the past cold season.

"The medical officer is Dinanath De. He visits every day, but resides at Killing. There is an ample supply of medicines.

"The lines are in good order and repair, sufficiently well drained, and the houses are raised on earthen plinths; they are provided with cots or *changs*.

"There is a very good *pucca* well with iron cistern and four taps under cover of a good shed. The tank is kept constantly filled. The coolies now appreciate this improved water supply.

"There are no latrines. The coolies frequent the jungle or spaces between the tea bushes.

"Food supplies are plentiful, cheap, and freely procurable at Nelli *hát*, 4 miles distant, held on Monday. Rice is now selling at 4 annas per measure of 5 seers or *don*.

"The manager complains that in the Khásia Rája's land just across the river opposite his lines country liquor is largely manufactured and is sold to the coolies at four annas per bottle, while its cheapness, and being so conveniently procurable, is prejudicial to the gardens around, increases the sickness and possibly the death rate.

"From what I saw of the lines, the coolies, and the hygienic arrangements, I feel satisfied that the manager takes great interest in his people and does his best to maintain their health.

"There are no other points of importance calling for remark."

The remarks made about the supply of unduly cheap country liquor to the coolies of this garden will be separately dealt with.

As regards Old Salona, the Deputy Commissioner writes—

"This is the first time that this garden has appeared on the unhealthy list. It has hitherto had a good reputation as a healthy garden, though the adjoining garden, Rangamati, under the same management and under the supervision of the same medical officer, has in previous years been pronounced to be unhealthy. There are three gardens belonging to the Nonoi Tea Company. These are Nonoi, Rangamati, and Old Salona. All are under one manager, and under the care of one medical officer, Dr. Rudduck, and visited weekly by him. The native doctor is reported by Dr. McNaught to be a properly qualified man. He resides on the headquarter garden, Rangamati, and visits the Old Salona garden daily. Serious cases are taken to the headquarter garden for treatment, medicines, medical comforts, &c., being kept at the latter. The death rate is high among both classes of labourers, Act and non-Act, being 9·65 for Act and 8·35 for non-Act. The number of deaths were 8 and 12 respectively, during the year under report.

"There were a few cases of cholera. If the cholera deaths be excluded, the percentage of deaths would stand at 4·81 for Act and 6·99 for non-Act labourers.

"I inspected this garden on the 8th August 1890. The remarks then I made are as follows:

"'There was nothing to call for special remarks on this garden. There is no reason for supposing the garden to be in any way an unhealthy one. The occurrence of a few cases of cholera this year was probably due to the prevalence of that disease generally over the district, and not to any local cause.'

"The Civil Medical Officer inspected this garden on the 16th March 1891. A copy of his medical remarks is given below :

"'The manager is Mr. W. H. Lyall, who resides at the headquarter garden, Rangamati.

"'The following is the strength on the day of inspection :

	Total.	At work.	Sick.	On leave.	Recruiting.
Act—					
Men	47	41	2	1	3
Women	41	33	4	4	...
Total	88	74	6	5	3
Non-Act—					
Men	30	24	1	2	3
Women	33	25	5	3	...
Children	22	20	2	...	...
Infants and non-working children	58	55	3	...	...
... ...	143	124	11	5	3

"'During 1890 the deaths were Act 8, with a percentage of 9·65, and non-Act 12, with a percentage of 8·33.

"'The death registration shows the following death causes during the year 1890 :

	Total.	Act.	Non-Act.
Cholera	6	4	2
Pneumonia	1	1	...
Diarrhœa	1	...	1
Fever	1	...	1
Dysentery	3	2	1
Childbirth	1	1	...
Wasting	3	...	3
Other causes	4	...	4
Total	20	8	12

"'There were no deaths registered as having occurred from *anchylostomiasis* or *beri-beri*. At an inspection of the whole of the Act labourers and their children, only two cases of this affection were found that had not already been treated with thymol. Several persons had already been treated two and three times with the remedy with marked benefit. The medical officer is on the alert to diagnose the disease, and such as are found suffering with it are sent to the headquarter garden to be treated there with thymol and the hotel system of feeding. Cases of any other grave ailment are also sent into the headquarter garden for care and treatment; but ordinary ailments are treated in the lines. There is a very good and capable Hospital Assistant, Mohammed Ahmed, and Dr. Rudduck visits the garden once a week. There is an ample supply of medicine at Rangamati, and the Hospital Assistant visits every day and sends the necessary medicines.

"'The drainage of the lines is good, and the site is sufficiently elevated above the neighbouring land to be above flood level, and the houses are raised on earthen plinths. There are no latrines; the coolies frequent the spaces between the tea bushes, which are frequently being hoed over.

"'The food supply is sufficient and is procurable at the Salona *hât* about 2 miles distant, which is held every Sunday. Rice is from one anna to five pice per seer according to quality. There is a large and varied supply of country vegetables, fowls, goats, &c., also procurable. The hours and arrangements for cooking food are the same as on the surrounding gardens.

"'Those unable to look after themselves are sent to the hospital at Rangamati and dieted there.

"'There have been no sudden changes of diet or deficiency in ordinary food supplies. The water supply consists of one earthenware pipe well (Burn and Co. pipes) for one group of houses. It is said to have a constant supply of water, but from its small diameter it is not sufficient. For a second group of houses there is a *cutcha* well. There are no pumps or cisterns fitted to these. In the Deputy Commissioner's inspection report dated the 8th August 1890, it is remarked 'Another *pucca* well with a pump will be constructed next cold season probably.'

"'The manager tells me he has ordered a number of earthenware rings of 30" diameter, and intends making two wells by that means. He states that such wells are cheaper than *pucca* ones. This may be so, but I think that a *pucca* well of at least 5 feet diameter, properly sunk in the driest season to below the permanent spring level, fitted with a pump and iron cistern with taps and the well mouth properly raised and covered over is a far better arrangement. The manager tells me the coolies while at work at a distance from the lines are supplied with water from the wells in the lines.

"'It is noted in the inspection report that the people bathe 'in the Iboigung, a stream close by,' and 'the water of this is not used for drinking.' There is a small tank with dirty stagnant water close by. I pointed out the great necessity there is to prevent the coolies using its water for any purpose.

"'There is a shop near. I examined the grain and other articles for sale, and found them good.

"'The diseases that prevailed were then usually found on tea gardens, and had it not been for the six deaths from cholera, the percentage would not have been high.

"'Generally speaking, the garden has been healthy, and the only points I would urge on the manager's attention are the water supply to be improved at once, and that the annual repairs to the houses in the lines be done at once. There are no other points that appear to require special remark.'"

It is noteworthy that Dr. McNaught prepared and circulated among the managers of gardens a *précis* of a pamphlet published by Dr. Harkins on the subject of "Vagus' treatment of cholera."

46. The following statements give particulars regarding the unhealthy gardens in Sibságar, and show the causes of the deaths which occurred :

Unhealthy gardens in Sibságar.

Unhealthy on Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Sadr ...	Sapakati	216	209	3	13	16	13·8	62·2	76·0
	Teok	226	247	6	16	22	26·5	64·7	91·2
	Sonari	330	319	7	17	24	21·2	53·2	74·4
	Mybella	142	141	4	7	11	28·1	49·6	77·7
Jorhát ...	Khorikotia	360	348	20	8	28	55·5	22·9	78·4
	Soicatta	420	412	16	16	32	38·1	38·8	76·9
	Noabari	160	180	5	9	14	31·2	50·0	81·2
	Daklangia	225	240	4	14	18	17·7	58·3	76·0
Golághát ...	Dygroon	355	401	13	15	28	36·6	37·4	74·0
	Bihora	170	188	7	7	14	41·1	37·2	78·3
	Diffiu	175	169	9	6	15	51·4	35·5	86·9
	Missamara	201	187	17	8	25	84·5	42·7	127·2
	Total	2,980	3,041	111	136	247	37·2	44·7	81·9

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Sadr ...	Sapakati ...	3	2	1	1	1	8	16
	Teok	7	13	.....	.....	.....	2	22
	Sonari	1	7	1	1	3	11	24
	Mybella	3	1	3	.....	.....	4	11
Jorhát ...	Khorikotia ...	10	3	6	.....	.....	9	28
	Soicatta	2	8	.....	6	5	11	32
	Noabari	.....	3	1	.....	.....	10	14
	Daklangia ...	5	.....	4	.....	6	3	18
Golághát ...	Dygroon	13	3	1	.....	.....	11	28
	Bihora	.....	1	1	1	.....	11	14
	Diffloo	5	6	.....	2	.....	2	15
	Missamara ...	9	5	3	.....	.....	8	25
	Total	58	52	21	11	15	90	247

* Includes one death from *kála-azár*.

Unhealthy on non-Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Sadr	Napuk	216	247	9	12	21	41·6	48·5	90·1
	Jaboka	174	173	6	9	15	34·4	52·0	86·4
Golághát	Letekujan	606	533	26	15	41	42·9	28·1	71·0
	Rangoliting	239	258	14	4	18	58·5	15·5	74·0
	Total	1,235	1,211	55	40	95	44·5	33·0	77·5

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Sadr... ...	Napuk	3	.....	4	.....	7	7	21
	Jaboka	2	3	2	1	.....	7	15
Golághát ...	Letekujan ...	16	3	3	.....	2	17	41
	Rangoliting ...	9	5	2	.....	.....	2	18
	Total	30	11	11	1	9	33	95

Unhealthy on Act and non-Act population taken together.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year	Second half year.	Annual.
Sadr	Kanubari	195	180	5	10	15	25·6	55·5	81·1
	Khumtai	492	538	33	18	36	46·7	24·3	71·0
	Nazira	188	134	19	1	20	103·8	7·4	111·2
	Rajabari	630	546	57	12	69	107 5	21·9	129·4
Jorhát	Hatijuri	107	103	10	....	10	93 4	....	93·4
Golághát	Wokha	486	433	18	14	32	41·2	32 5	73·5
	Oating	350	337	18	9	27	51 4	26·7	78 1
	Deering	255	214	52	12	64	203·9	56·0	259·9
	Hatikuli	739	739	48	29	77	64·9	39·2	104·1
	Haotoli	511	521	57	7	64	111·5	13 4	124 9
	Dhansiri	574	480	58	16	74	101·0	33 3	134·3
	Total	4,872	4,220	365	123	488	83·4	29·1	112·5

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Sadr	Kanubari	1	8	....	1	3	2	15
	Khumtai	8	8	8	8	....	19	36
	Nazira	17	....	1	....	....	1	20
	Rajabari	55	8	1	1	....	5	69
Jorhát	Hatijuri	10	....	....	....	....	....	10
Golághát	Wokha	4	15	4	1	3	4	32
	Oating	....	6	2	....	2	17	27
	Deering	49	11	2	....	....	2	64
	Hatiknli	56	10	3	8	....	5	77
	Haotoli	52	2	....	....	....	10	64
	Dhansiri	45	12	3	2	....	12	74
	Total	292	80	19	11	8	78	488

Thus the number of unhealthy gardens was 27, against 33 in the previous year, distributed as follows :

	1889.	1890.
Unhealthy on Act-I population only	12	12
„ „ non-Act population only	3	4
„ „ total population	18	11
Total	33	27

Regarding the mortality generally, the Deputy Commissioner writes—

"The list of unhealthy gardens has been enormously swollen by cholera. If cholera be excluded, the number would be reduced from 27 to 9. These are the following :

"*In Sadr.*—Sonari, Napuk, Joboka, Kanubari.

"*In Jorhát.*—Soicatta, Noabari.

"*In Golághát.*—Bihora, Missamara, Oating.

"Khorikotia, Doklongia, Difflu are the only gardens that appear again on the list of gardens unhealthy among Act labourers alone.

"None of the gardens unhealthy for non-Act labourers only in the previous year appear again.

"Of the 18 gardens shown as unhealthy in 1889, from calculations based on the deaths among Act and non-Act labourers taken together, six have been transferred to the two other lists, three are shown again, and nine are shown for the first time in the two years, that is only twelve gardens have been unhealthy two years running, while only three have been unhealthy for any particular class of labourers during the two years.

"I give below the names of the gardens which have been more than once on the unhealthy list during past three years :

Kanubari ... 1889	Soicatta ... 1889	Bihora ... 1888 & 1889
Teok 1888 & 1889	Khorikotia ... 1889	Difflu ... 1889
Sonari ... 1889	Daklangia ... 1889	Deering ... 1889
Napuk ... 1889	Noabari ... 1888	Hatikuli ... 1889
Joboka ... 1889	Dhansiri ... 1889	

"The high mortality in 7 of the above 14 gardens, which appear a second time in the unhealthy list, is due to cholera. Committees under section 128, Act I of 1882, have been assembled since the close of the year on Bihora, Hatikuli, and Deering tea gardens, and the reports forwarded.

All these gardens have been inspected by the Civil Surgeon, and the following remarks are extracted from his reports or from the reports of the committees of which he was a member :

SAPAKATI (*inspected on the 21st February 1891*)—

" Most of these deaths resulted from cholera, *beri-beri*, and bowel-complaints. The insanitary condition of the garden has much to do with the prevalence of these diseases.

" *The lines.*—Overcrowded on low land, drains shallow. Huts on very low plinths. Huts in which cholera cases occurred last year are still standing and being occupied by coolies.

" *Water-supply.*—Unsatisfactory. The present tank is shallow. Its water yellow coloured, and contains a large quantity of suspended matter (vegetable and mineral). It is not fenced in.

" *Present health of coolies.*—All Act coolies were mustered. They looked fairly healthy. Two cases of *beri-beri* noticed among them, one a Bhuyiah and the other a Bhumiz. I noticed also some cases of venereal diseases, and chiefly among the newly-imported coolie women. These diseases were most probably contracted by the coolies before they arrived at the garden.

" *Recommendations.*—The present lines should be gradually abandoned, and new lines should be built on high land. The huts in which cholera cases occurred should be pulled down immediately.

" The present tank for the supply of drinking water should be deepened and fenced in. A masonry filter tank should be attached to it. The coolies should not be allowed to drink the tank water unfiltered.

" The present manager, Mr. Rainnie, took up charge of this garden about six weeks ago, and is not at all responsible for the insanitary condition of the garden. He is working hard to improve the sanitation of the place, and looks carefully after the health of the coolies."

TEOK (*inspected on the 21st November 1890*)—

" The manager attributes the cause of the deaths in most of the cases partly to cholera and dysentery resulting from drinking the Teok river water, and partly to the negligence on the part of the native doctor being constantly intoxicated and not taking proper care of the sick. The native doctor has been changed.

" If deaths from cholera are deducted, then the death rates among the Act and non-Act coolies do not appear to be high. There has been some improvement in the sanitary and medical arrangements of the garden since last inspection. The lines are kept in better order, the tank is fenced and kept clean, and sufficient medicine and medical comforts are kept in the hospital. The general health of the coolies has improved, but still the prevailing disease in the garden continues to be *beri-beri*. During my inspection, I pointed out 35 cases of *beri-beri* (15 advanced stage and 20 incipient stage), and 10 cases of general debility, and explained the proper treatment in all these cases to the native doctor.

" The following recommendations should be carried out :

" *Lines.*—Better and more substantial huts should be built for the coolies.

" *Water supply.*—The coolies must be stopped from drinking the Teok water. The present tank should be deepened, and its water filtered before being used by the coolies for drinking purposes.

" *Food.*—The native doctor complains that the Bunniah now and then sells bad rice and *dál* to the coolies, and that putrid fish and meat (carcasses of diseased cows, &c., found in the jungle) are often brought into the lines, and eaten by the jungly coolies, and that women often eat clay from the river bank. These should be put a stop to by the manager. I am pretty sure that European medical supervision would be necessary for this garden, as the native doctor has been very careless in the discharge of his duties."

SONARI (*inspected on the 19th November 1890*)—

" Most of the deaths were due to dysentery, diarrhœa, and cholera. There was also one death from *beri-beri* and one from *kála-azár*."

" The sanitary recommendations made regarding the lines at the last inspection have not been carried out. The manager says he will do so gradually. I repeat that the present site must be abandoned and new lines built away from the river bank. The huts should be more substantial, and there should be deep drains with proper outfalls.

" The quality of the water supply has been improved by erecting a masonry filter close to a small tank in the lines. This tank gets very low in the dry season, and it is not sufficient for all the coolies and dependants living in the garden, many of whom no doubt drink the Towkak water. The Rája's tank, about 1,500 yards from the present lines, is the proper place whence to obtain a pure and abundant supply of water for the coolies."

MYBELLA (*inspected on the 20th February 1891*)—

" The deaths among the Act coolies were mainly due to cholera, diarrhœa, and debility. The following insanitary conditions were noticed during my inspection.

" *Lines.*—Dirty and badly drained and too close to the Suffrai river. Huts generally small and dark.

" *Water supply.*—Very unsatisfactory. The coolies drink the dangerous water of the Suffrai river.

" I paraded all the Act coolies, and pointed out to the compounder five cases of *beri-beri* among them. They were new coolies from Manbhum and Bankura, and belong to the ' Korah and Punkah ' castes.

" *Recommendations.*—The lines should be removed from the vicinity of the Suffrai river. Better and more comfortable huts on high plinths should be built for the coolies. Coolies should be supplied with good drinking water. Either two *pucca* wells should be sunk, or water should be carried in pipes into the lines from the Rája's tank (inside the grant) about 600 yards from the present lines."

KHORIKOTIA (*inspected twice, on the 10th March and 15th December 1890*)—

"The manager writes to say that the large mortality was due to the outbreak of cholera, which was due to the indiscreet eating and drinking at a wedding, which lasted three days.

"There were 27 deaths, including cholera, since last inspection. The disease broke out in the spring among coolies occupying huts close to the Doolie river. It lasted for two months (April and May), and there were 12 deaths, chiefly among coolies living close to the river.

"The disease disappeared as soon as the coolies stopped drinking the river water.

"*Recommendations.*—The *kutcha* lines near the Doolie river should be pulled down as soon as possible.

"No *pucca* lines or barracks built for the coolies on this side.

"The drainage in the lines is not satisfactory. The drains should be deep and properly sloped."

SOICATTA (*inspected twice, on the 13th March and 14th December 1890*)—

"The medical officer of the Jorhát Company, Dr. Montgomery, states that the majority of cases are due to the excessively debilitated state of the coolies rendering them peculiarly liable to anæmia and gastrointestinal complaint. He says he has examined the lines and the water supply, and can find nothing in them which would account for the excessive mortality. He is of opinion that it is due to the bad class of coolies combined with bad feeding.

"Death rate among the Act coolies high from dysentery and dropsy chiefly. Most of these were new coolies, and were in the garden for about a year. They generally belonged to the Bhuniah, Bowrie, and Muchi castes, all dirty feeders. I saw about 120 new coolies, and though they were being carefully fed by the manager, they still looked weak and seedy. I detected about 20 cases of *beri-beri* among them.

"*Causes of high death rate.*—Bad class of coolies imported. I believe that half the number of cases of dysentery and dropsy in the garden were really cases of *beri-beri*; and if they were taken in hand in time and treated by thymol, they would have been saved.

"The sanitary arrangements of the garden are satisfactory.

"The water supply is excellent.

"*Recommendations.*—The few remaining *kutcha* huts should be pulled down. In my opinion the medical officer should be present at the muster of coolies once every month to pick out cases of *beri-beri*, and make them over to the native doctor for proper treatment in the hospital by thymol."

NOABARI (*inspected on the 28th March 1891*)—

"Percentage of deaths high among the Act coolies during past six months from bowel complaints. These deaths occurred chiefly among the new coolies, and were due to unwholesome drinking water obtained in the garden. The garden has at present 3 narrow shallow pipe wells, their water turbid, and contains a large quantity of suspended matter.

"*Recommendations.*—The present wells should be gradually given up, and two deep *pucca* wells fitted with force pumps and filtering tanks should be constructed. The manager has already commenced sinking a deep *pucca* well, and has also got up force pumps from Calcutta for the new well.

"*Lines.*—The old lines should be given up. The houses have low plinths and their drainage is unsatisfactory.

"*Hospital.*—The present *kutcha* hospital is unsatisfactory. It is dark, low, and small. A new *pucca* hospital is very much needed in this garden."

DAKLANGIA (*inspected twice, on the 10th March and 16th December 1890*)—

"Death rate high among the Act coolies. There were a large number of deaths from cholera, *beri-beri*, and bowel complaints. The garden is unhealthy.

"*Causes of unhealthiness.*—Bad class of coolies. Deaths occurred mostly among Bhuiahs and Muchis. These people often come to hospital for diarrhœa, debility, and *beri-beri*.

"*Insanitary condition of the lines.*—They are overcrowded and badly drained.

"*Bad drinking water.*—There are at present two shallow pools of water: one is nearly dry, contains about 3 feet of water just now; the other contains about 6 feet of reddish coloured water.

"About 150 coolies were mustered. I pointed out 20 cases of *beri-beri* among them to the native doctor.

"The present lines should be gradually given up. They are unhealthy. The manager says he will commence building *pucca* lines this cold weather.

"The water supply is bad. Two *pucca* wells with pumps and filtering cisterns are urgently required. The manager intends sinking two *pucca* wells this cold weather.

"The coolies should be paraded once a month by the Doctor Babu for the early detection of cases of *beri-beri*."

DYGROON (*inspected on the 18th March 1891*)—

"*Deaths in 1890.*—During the first half year ending 30th June there were 20 deaths, of which 16 were from cholera. The largest number of deaths occurred during the month of April. From July to 31st December there were 15 deaths, of which 4 were from cholera and 9 from diarrhœa and dysentery.

"Cholera appeared first in the Kachári lines on the bank of the Dygroon river on the 3rd of March 1890. The disease prevailed at the time in an epidemic form in the Assamese and Kachári villages across the Dygroon river. The Kacháris drank the Dygroon water, which was tainted by the cholera excreta thrown into the river by the villagers. From the Kacháris the disease spread among the Bengali coolies. The present sanitary arrangements of the garden are satisfactory.

"*The lines*—Clean, well drained, and the huts on high plinths and well ventilated.

"*The water supply*—Is now greatly improved. Masonry filter tanks with brass taps are being attached to the deep wells. This measure, when carried out, will I believe prevent the spread of cholera, and greatly reduce the number of deaths from diarrhœa and dysentery in the garden.

"*Food supply.*—Satisfactory in every way."

BIHORA (*inspected in December 1890*)—

"The number of deaths and percentage to the whole population has been—

				Deaths.	Percentage.
In 1888—Act	...	...	...	12	13·34
Non-Act	...	...	...	20	12·42
„ 1889—Act	...	...	...	23	14·21
Non-Act	...	...	...	14	7·24
„ 1890—Act	...	...	...	14	7·83
Non-Act	...	...	...	7	3·05

"The garden was inspected in December 1889 by the Civil Surgeon and in July 1890 by the Assistant Commissioner of Golághát. The defects noticed by the Civil Surgeon in 1889 had been remedied before the Assistant Commissioner's inspection. There is now a properly-qualified native doctor holding a Dacca Medical School diploma, who is attached to this garden only. Dr. S. O. Bishop also visits once a week. A hospital has been built with proper accommodation for in-patients, and there is a due supply of medicines. The lines are on high ground with deep drains round each building to carry off water to the neighbouring *bhils*. A large tank has been built, and has even at this time a fair supply of water, which is doubly filtered and drawn off through the reservoir. Coolies have now no other means of water-supply. The general health of the coolies appears to be very fair. There are some cases of *beri-beri* in hospital, and a few cases were detected at the general muster of coolies and sent to the hospital.

"In conclusion, the committee is of opinion that the manager has thoroughly remedied all the defects pointed out in the sanitary arrangements of the garden, and there is no reason why the garden should be closed to any class of coolies."

DIFFLU (*inspected on the 15th March 1891*)—

"*The lines*—Are clean and comfortable. The new lines behind the tea house, which were unhealthy, have been removed to a higher situation.

"*The water*.—The coolies get their supply from the Difflu river. The water is at present fairly good. There are no tanks or wells in the garden.

"*The drainage*—Has been much improved. It is at present satisfactory. Most of the huts are on high plinths.

"*General health.—Act coolies*.—At present no more Act coolies are imported. The present labour force is sufficient. The older coolies are getting acclimatized. Deaths among Act coolies high. Total deaths among Act coolies in 1890, 15 (cholera 5, dysentery 6, pneumonia 1, dropsy 2, and murder 1).

"Among non-Act coolies in 1890, 7 (dysentery 2, *beri-beri* 1, pneumonia 1, and murder 1). Deaths among children 2 (1 croup, 1 dysentery). Deaths chiefly due to bowel complaints.

"One death among Act coolies since January 1891 from dysentery. The prevailing diseases now are fever and cold. Average in hospital 3 per day.

"*Recommendations*.—The arrangement for the supply of drinking water is unsatisfactory. I would recommend that two *pucca* wells (with filtering tanks attached) for the supply of good drinking water to the coolies should be sunk as soon as possible.

"There should be an abler, more energetic, and better qualified native doctor in the garden. The present native doctor was not in the garden at the time of my inspection."

MISSAMARA (*inspected on the 24th March 1891*)—

"Cholera broke out in this garden on the 5th of May 1890. Its sanitary condition at the time was as follows :

"*The main lines* (*new*) were in good order, and the people were supplied with good drinking water from four deep *pucca* wells ; but the Kachári lines, which were occupied mainly by the Act-I coolies were unhealthy. The lines were on low land, and the huts were dark, damp, and had low plinths. The drinking water was obtained from a well, which was condemned by me in December 1889. Previous to the outbreak of cholera in the garden, the disease prevailed in Duliahgaon, about 350 yards from the main lines. The garden coolies mixed with the villagers at the Missamara *hát* in order to purchase *dhán* and vegetables from them. The first three cases of cholera occurred in the main lines, one recovered and two died. On the 9th of May the disease attacked the Kachári lines, and within five days there were 22 cases with 11 deaths. Then these lines were vacated, and the coolies were transferred to temporary sheds about a mile and half from the factory. There were no more cases of cholera since then among the Act coolies. There were one or two isolated cases in the main lines, but as these were in good sanitary condition, the disease did not get a regular footing here.

"The Kachári lines have been completely abandoned, and the huts will be pulled down in a few days.

"Two new *pucca* wells have been sunk, and the condemned Kachári well has been closed up.

"The present *kutcha* hospital will be pulled down, and a new *pucca* hospital will be built in its place. A qualified native doctor will be appointed soon. Dr. S. O. Bishop attends the garden twice every week."

NAPUK (*inspected on the 18th November 1890*)—

"The death rate in the garden still continues very high among the non-Act labourers and dependents. Most of these deaths occurred among the children, and were mainly due to bad feeding and want of proper care on the part of the mothers.

"The coolies in the garden are recruited chiefly from the following classes : Oorongs, Sonthals, Tury, Bowris, and Bhuyahs. Of these the two last are generally lazy and sickly. They often come to hospital, never wash, destroy *changs* by making holes in them to ease themselves, eat charcoal,

earth, and all sorts of putrid meat and fish. *Beri-beri* is common among these people. At the muster I pointed out about 75 cases of anæmia (chiefly *beri-beri*) among these people.

"*Sanitary arrangements.*—The new lines are satisfactory in every way. The old lines are bad, and they are being gradually pulled down.

"*Water supply.*—In the new lines the drinking water is obtained from a large fenced tank furnished with filter arrangements. In the old lines there are three wells which are nearly dried up. The coolies generally obtain their water from the tank. I would recommend that the wells should be filled up.

"*General remarks.*—The sanitary defects pointed out at the last inspection have in a great measure been removed, and I have no doubt that has helped greatly to decrease the death rate among the coolies in the garden. When the recommendations are thoroughly carried out, the garden will be one of the healthiest in this district."

JOBOKA (*inspected on the 22nd November 1890*)—

"High death rate among non-Act coolies and dependents. Most of these deaths occurred amongst children under 10 years, principally from cholera, dysentery, and debility brought on by bad food and bad drinking water from the Towkak river; 22 cases of *beri-beri* among the Bhumij, Ghatwal, Bowris, and other very low caste people. I ordered the native doctor to admit these people into the hospital and commence the thymol system.

"*Sanitary recommendations.—Lines.*—The old lines should be pulled down. They are badly drained and dirty. The new lines should be completed this year; 18 built since last inspection.

"*Water supply.*—The tank and wells have very little water in them now. These should be deepened this cold weather. The tank water should be filtered before being used by the coolies for drinking purposes. At present many coolies drink the contaminated water of the Towkak river.

"*Hospital.*—A new hospital, as recommended by me at the last inspection, has been built. It is kept in good order.

"*General remarks.*—The manager has carried out many of the recommendations made at the last inspection. He has built a new hospital, which is now much used by the coolies and where all serious cases are treated as indoor patients. He has dug a new well and deepened the tank, but he has not been successful in obtaining a plentiful supply of good water. There was very little water in them at the time of my inspection. They should be deepened and improved. *Beri-beri* and bowel complaint will never leave the garden till the lines and water-supply become thoroughly satisfactory."

LETEKUJAN (*inspected on the 18th March 1891*)—

"The garden is at present healthy, the death rates among the Act and non-Act coolies being very low. During 1890 there were 82 deaths, of which 41 occurred among the Act coolies and 41 among the non-Acts and dependents. Most of these deaths were due to epidemic cholera.

"This disease broke out in the early part of February in a Kachári village, called Morungi. From thence it spread to the Kachári lines of Dygroon tea estate. From Dygroon it reached Letekujan through the medium of the Letekujan *hát*, where the garden coolies and the villagers met every Friday.

"The sanitary and medical arrangements and the water supply of the garden are very satisfactory."

RANGOLITING (*inspected on the 24th March 1891*)—

"There are only 45 Act coolies and 295 non-Act coolies and dependents in this garden. Cholera occurred here in May last, and continued till the end of June. Most of these deaths occurred among the non-Acts and dependants, many of whom used to live outside the lines. There was cholera at the time in the neighbouring villages of Missamara, Ghotokai, Hashwal, and Duergaon.

"This year (1891) there have been 4 deaths from cholera up to date. The last case occurred on the 6th of March.

"The following sanitary measures have been already adopted by the garden authorities:

(*a*) A new cholera hospital has been built.
(*b*) The huts where cholera cases occurred have been pulled down.
(*c*) Drains have been cleared and deepened.
(*d*) A chaukidár has been appointed to prevent coolies taking water from the Dooriah river.
(*e*) The clothes, excreta, &c., of the cholera patients have been disinfected and buried far away from the lines.

"I noticed the following sanitary defects during my inspection:

(*a*) The huts have very low plinths, and there is much overcrowding in the lines. These defects must be removed.
(*b*) The water supply is unsatisfactory. There is one *pucca* pump well. It is shallow and its water muddy. There is no doubt the garden coolies often drink the Dooriah water, which is poisonous. Another well is being dug. The water supply must be improved.
(*c*) A chaukidár serves out medicines in this garden with 250 souls. A qualified compounder must be kept here."

KANDBARI (*inspected on the 23rd November 1890*)—

"High death rate among the Act coolies from dysentery and anæmia. I have no doubt that many of these were cases of *beri-beri*, and if thymol had been given in time would have recovered. The native doctor is quite incompetent. He can neither diagnose a case of *beri-beri* nor does he know anything about treatment by thymol. I recommended his removal at the last inspection.

"The drinking water arrangements are still unsatisfactory. The contaminated water of the Balijan stream is still used. A *pucca* well should be sunk as early as possible. I also made this recommendation at the last inspection.

"I am glad to report that Mr. Pearce, manager, head factory at Sonari, has promised to carry out these recommendations as soon as possible."

KHUMTAI (*inspected on the 4th December 1890*)—

"*Present health.*—Good ; only a few cases of fever, lung diseases, and debility in hospital now. I inspected about 200 coolies, and pointed out 6 cases of *beri-beri* to the compounder, and recommended the proper treatment.

"*Lines.*—Satisfactory. Too many pigs live in the place. They burrow holes everywhere. It would be much better if their number could be reduced

"*Water supply.*—Very fair at present ; but taking into consideration the fact that a good few cases of bowel complaints including cholera and chronic diarrhœa occur here every year, I would recommend that *pucca* masonry filters should be attached to each well, and the coolies should be allowed to drink nothing but filtered water. The bathing arrangements are also unsatisfactory. At present the coolies go to Dhansiri river, about a mile off from the garden, for the purpose. I recommend a bathing tank in the garden.

"The compounder is not competent. He is to appear before me six months hence for examination. The man is hard working and very willing."

NAZIRA (*inspected on the 31st October 1890*)—

"The lines are on low land by the side of the main road. There are in all 41 huts ; of these 10 are occupied by Act coolies and their dependents, 27 by free labourers, and 4 were unoccupied. The total number of Act-I coolies living in the lines is 15, and that living in the bungalow compound is 3, making in all 18 Act-I coolies. Total number of free labourers and dependents is 152. Of these 85 live in the lines and drink the Dikhu water ; the remainder live in villages about Nazira. There is also a 'new coolies' depôt in the station. This is kept open from November to July. The newly imported coolies stay here for a few days before going on to the tea gardens. The depôt huts are about three-fourths of a mile away from the lines, and the drinking water for this depôt is also obtained from the Dikhu river.

"*General remarks.*—The high death rate among the coolies working in the mills was chiefly due to epidemic of cholera, which raged in and around the villages about Nazira during the months of May, June, and July last. It is probable the disease was first brought into the station by the free labourers who live outside the Nazira station. The contaminated water of the Dikhu river also helped in the spread of the disease in the station.

"*Medical arrangements.*—Satisfactory. A qualified native doctor with a large supply of medicines is in charge of the station.

"*Recommendations.*—Tank filters should be arranged for the supply of good drinking water to the coolies. The present lines are not healthy. Soil low, damp, and waterlogged. Should be given up, and huts built on higher ground."

RAJABARI (*inspected on the 26th January 1891*)—

"The manager explains that the high mortality in this garden was due to cholera."

"The garden was inspected by the Deputy Surgeon General and myself. No cholera in garden since last inspection. The following sanitary arrangements are being carried out :

"New lines on high land are being built, and the old lines gradually pulled down.

"Materials are being collected for the sinking of three *pucca* wells with filter tanks during the present year.

"A new *pucca* hospital with a feeding place attached is also under consideration.

HATIJURI (*inspected on the 29th March 1891*) –

"Many deaths from cholera occurred here among the Act and non-Act coolies during April and May last. The first case occurred in an old coolie called "Heru," who was attacked with cholera on returning from the Titabar *hât*. He died the same night. It is probable the disease was imported into the garden from Titabar, where cholera was prevalent at the time. The disease multiplied owing to the bad water supply of the garden. There was no well or tank, and coolies drank the poisonous water of a dirty little stream called Dooli, which was close to the old lines.

"This is a new garden about three years old. It is still very jungly. The coolies are all seasoned healthy coolies. No new coolies are allowed to work here. The present lines are situated on a strip of high land surrounded by deep *jans* containing much stagnant water. The site is unhealthy. The huts are only temporary sheds constructed of *bazal* bamboo and thatched with *jangoo* leaves. They have low plinths. The old lines on the bank of the Dooli river, where cholera occurred, have already been abandoned. The water supply is now obtained from a small pipe well fitted with pumps. The pump did not act when I inspected the garden. The coolies, I am told by the head muharrir, often drink the Gotunga water, another stream passing through this garden.

"*Recommendations.*—

(*a*) The new lines are on an unhealthy site, and should be gradually given up. More substantial huts should be built in place of these temporary sheds.

(*b*) The water-supply of the garden should be improved. A deep *pucca* well fitted with force pumps and filtering tanks is required.

(*c*) A small dispensary with a proper supply of medicines required, and the dispensary should be in medical charge of a qualified compounder. At present the muharrir keeps a few bottles of old mixtures in his hut, and distributes these among the sick coolies."

WOKHA (*inspected on the 20th March 1891*)—

"A large number of the deaths in the garden was due to dysentery and cholera. The sanitary condition of the garden and its water supply were very unsatisfactory during my inspection.

"The lines were dirty ; the huts ricketty, damp, and on low plinths. The surface drains were filled up with all sorts of rubbish.

"Water supply obtained from the Gorungjan or river, very liable to sewage contamination.

"*Recommendations.*—1. New lines on a new site to be built as soon as possible.

"2. Two deep *pucca* wells should also be sunk soon."

OATING (*inspected on the 20th March 1891*)—

"The garden contains 202 Act coolies (91 males and 111 females), also 15 non-Act coolies (8 males and 7 females) and a few children and dependents.

"During 1890 there were 11 deaths, all among the Act coolies. The chief causes of deaths were bowel complaints (diarrhœa and dysentery). There were two deaths since beginning of this year, one from debility and one from cholera.

"The following sanitary defects were noticed during my inspection:

"1. *Lines.*—On low plinths generally overcrowded, drains kept dirty.

"2. *Water-supply sources*—

(*a*) One *pucca* well, water muddy.

(*b*) Silpukuri spring water, 400 yards from the lines and close to the manager's bungalow, used by the manager only.

(*c*) A tank unprotected, water dirty, close to the lines, much used by the coolies.

"*Food supply.*—Appears satisfactory.

"*Recommendations.*—1. The water supply of the garden must be improved, a masonry filter tank fitted with taps should be attached to the *pucca* well. The tank near the lines should be properly fenced in and cleaned, and its water should be used only for bathing purposes and for washing pots and pans by the coolies.

"2. The plinths of the huts should be raised and overcrowding prevented by pulling down a few huts here and there. The drains should be kept clean."

DEERING (*date of inspection not given*)—

"The death rate on this garden in 1889 was among Act coolies 45·5 per cent., among non-Act coolies 10·82 per cent. The death rate among Act coolies in 1890 was 25·99. In both years the high percentage was due to cholera. Besides cholera there were a few cases of dysentery. Cholera was imported into the garden from neighbouring villages. The water-supply has hitherto been the Deering stream, a small stream running down from the hills. Since the last inspection a well is being sunk. The water will be pumped up into a masonry reservoir with filters and cocks to draw off the water. The Committee is of opinion that this will afford a sufficient and proper supply of drinking water.

"There is a separate hospital with accommodation for in-patients and a sufficient supply of medicines. The Committee is of opinion that nothing further is required in this direction. There is a duly qualified native doctor. The lines are not satisfactory. In the opinion of the Committee the plinths of the huts should be higher; a regular system of drainage should be substituted for the present drains; cowsheds should be built away from the lines; and as many houses as possible be removed to a high ridge of ground at a slight distance from the present site. The coolies were mustered. The sick list to-day was one child suffering from fever. Only one case of incipient *beri-beri* detected among the coolies. The labour force was on the whole very healthy.

"The Committee is pleased to remark that there has been a change of management, and the garden is now under a European manager instead of, as previously, a native muharrir.

"As regards importation of coolies, the Committee is of opinion that there is no reason to declare the garden unfit for the residence of new coolies, provided that until the effect of improvements suggested above is seen, such coolies should be located in new huts on a site away from the present lines."

HATIKULI (*date of inspection not given*)—

"The death rate on this garden has been high among Act coolies principally, and the chief cause of the high mortality has been cholera. At the last inspection it was noticed that out of 48 deaths no less than 42 were from cholera.

"The number of deaths and percentage of mortality among Act coolies has been in—

1888	...	...	...	14	deaths,	13·38	per cent.
1889	...	...	...	20	„	10·58	„
1890	...	...	...	43	„	21·21	„

"The sanitary improvements suggested by the Civil Surgeon at his last inspection have either been fully carried out or are on the point of completion, with the result that there is now a good hospital and a properly qualified native doctor. A hill stream has been embanked, and water is being forced up into a masonry filter by means of a hydraulic ram. The filter is fitted with cocks for drawing the water. It will be in work after a few days; all is completed except the filter. The lines are on high ground with natural drainage. The Committee is of opinion that the management has done all that is necessary, with the exception of some slight improvements to the lines, which the manager can be left to carry out, and there is no necessity to restrict the importation of labour to this garden. The Committee would, however, suggest that in the case of any new coolies who are anæmic in appearance, the hotel system might be introduced advantageously by the manager."

HAOTOLY (*inspected on the 19th March 1891*)—

"*Cholera.*—Two sporadic cases occurred in April; both died. There was a lull for a month or six weeks. Then the disease broke out in a virulent form about the end of May, and lasted till the end of June. The cause of the outbreak was scarcity of drinking water in the garden. The tube wells failed in their supply, and the coolies had to drink the Dhansiri water. Total deaths 28, Act 18 and non-Act 10. There was cholera at the time in the villages around and in Golághát.

"*Sanitary arrangements*—(*a*) *Lines.*—Good. Some of the old lines are being vacated and huts being built on the highest piece of land in the garden.

"*Drainage.*—Satisfactory.

"(*b*) *Water supply.*—Requires improvement. As the tube wells are liable dry up in a season of drought and as the newly excavated tank will be the chief source of water supply in the garden, I would recommend that the tank should be properly fenced in and a masonry filter fitted with taps should be attached to it.

"*Food supply.*—Satisfactory."

DHANSIRI (*inspected on the 21st March 1891*)—

"*Cholera in 1890.*—When the disease broke out in March, the *pucca* well was not finished and the coolies were drinking the Dhansiri water. The well was completed in May, and cholera gradually stopped in the garden. Cholera was present in the villages and also in the Oating villages of the Dhansiri river at the time.

"*Sanitary arrangements.*—(*a*) *Lines.*—Clean, drainage fairly satisfactory. Some of the huts have low plinths. The manager intends to build *kutcha-pucca* houses on high plinths next year.

"(*b*) A new *pucca* deep well supplies the lines, the water being laid on in pipes.

"*General health.*—Fairly good. There are some cases of *anchylostomiasis* among the coolies.

"*Food supply.*—The Kaiya shops were inspected. The food stuffs sold to the coolies appeared to be of good quality."

Unhealthy gardens in Lakhimpur.

47. The following statements give particulars regarding the unhealthy gardens in Lakhimpur and show the causes of the deaths which occurred :

Unhealthy on Act population.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Sadr	Khanikar	139	141	1	10	11	7·1	70·9	78·0
	Nahartoli	201	191	9	10	19	44·7	52·3	97·0
	Hukanguri	770	897	43	44	87	55·8	49·0	104·8
	Lepetkatta	120	114	4	7	11	33·3	61·4	94·7
	Chabua	434	438	16	16	32	36·8	36·5	73·3
	Tiphuk	424	428	14	25	39	33·0	58·4	91·4
	Samdang	285	293	15	23	38	52·6	78·5	131·1
	Balijan Tea Company ..	365	344	9	17	26	24·6	49·4	74·0
North Lakhimpur	Panitola	562	613	26	15	41	46·2	24·4	70·6
	Hulmari	311	357	13	12	25	41·8	33·6	75·4
	Total	3,611	3,816	150	179	329	41·5	46·9	88·4

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery.	Fever.	Dropsy.	Anæmia.	Other causes.	Total.
Sadr	Khanikar	1	4	1	..	5	..	11
	Nahartoli	1	4	1	1	5	7	19
	Hukanguri	48	19	7	..	..	13	87
	Lepetkatta	2	..	1	1	3	4	11
	Chabua	6	11	4	..	1	10	32
	Tiphuk	2	8	..	..	23	6	39
	Samdang	3	22	3	..	6	4	38
	Balijan Tea Company	8	5	..	3	1	9	26
North Lakhimpur	Panitola	6	8	3	..	..	24	41
	Hulmari	8	7	1	1	..	8	25
	Total	85	88	21	6	44	86	329

Unhealthy on Act and non-Act population taken together.

Subdivision.	Name of garden.	Mean strength.		Deaths.			Ratio per mille.		
		First half year.	Second half year.	First half year.	Second half year.	Total.	First half year.	Second half year.	Annual.
Sadr	Oaklands	179	483	2	32	34	11·1	66·2	77·3
	Mesaijan	748	755	16	52	68	21·3	68·8	90·1
	Assam Railway and Trading Company's coal-mines.	2,378	2,356	112	211	323	47·0	89·5	136·5
	Rungiliting	59	133	6	5	11	37·7	37·5	75·2
North Lakhimpur ..	Hatiali	172	214	4	14	18	23·2	65·4	88·6
		3,636	3,941	140	314	454	38·5	80·2	118·7

Causes of deaths.

Subdivision.	Name of garden.	Cholera.	Dysentery	Fever	Dropsy.	Anæmia.	Other causes.	Total
Sadr	Oaklands	3	6	3	3	3	14	34
	Mesaijan	3	42	6	..	10	7	68
	Assam Railway and Trading Company's coal-mines .	1	60	8	.	24	230	323
North Lakhimpur	Rungliting	1	1	2	..	2	6	11
	Hatiali	5	4	8	..	..	1	18
	Total	13	113	27	3	41	257	454

There were no gardens unhealthy on non-Act population only.

As regards the gardens included in the above lists, the Deputy Commissioner writes—

"There were only 15 gardens on the black list, against 27 of the previous year, and if the death rate is struck on the total population in all those 15 cases, only 5 will show a rate of mortality above 7 per cent. From the list it will be seen that the Assam Railway and Trading Company's coal-mines have the highest death rate among Act coolies (17·75 per cent.), Samdang comes next with 13·11 per cent., then Hukanguri with 10·48 per cent., and Mesaijan 9·70 per cent.

"A Committee was held during the year on the Samdang tea garden. The Civil Surgeon has been very active in inspecting, and inspected all the sadr gardens. One garden in North Lakhimpur has yet to be inspected. Of the 15 unhealthy gardens, Chabua, Tiphuk, and Rungliting had a death rate among Act coolies over 7 per cent. in 1889; Hukanguri, Assam Railway and Trading Company's coal-mines, and Mesaijan had a death rate above 7 per cent. among Act coolies continually since 1886; Samdang had been regularly in the black list since 1887; while Balijan, Khanikar, and Nahartoli had a death rate among Act coolies over 7 per cent. regularly since 1888."

With the exception of Hulmari, all the unhealthy gardens were inspected by the Civil Surgeon, and the following remarks are extracted from his reports:

KHANIKAR (*date of inspection not given*)—

"During the year under report *beri-beri* and dysentery gave rise to the largest share of the mortality on this estate. Of the causation of *beri-beri* it would be as yet premature to speak; with reference to its prevention, a good deal has been and is being done by the manager. Two new ring line wells have recently been sunk and two brick line wells are in process of construction, those already finished being well and sufficiently guarded from contamination by Portland cement.

"The question of conservancy is in this country, and more specially so among tea garden coolies, extremely difficult to deal with, but none the less on that account calling for serious attention. The latrine system is extremely primitive and objectionable, and it is highly improbable that *beri-beri* will ever be stamped out until an efficient latrine system is established in every affected area.

"The nearest *hát* where fresh provision can be purchased is a very long distance, and, in the opinion of the writer, the establishment of weekly *hát* on or near the estate would tend not a little to an improved healthiness of coolies.

NAHARTOLI (*inspected on the 21st January 1891*)—

"This garden was inspected on the 11th of August 1890 by Assistant Surgeon Tamiz Uddin Ahamed, on which occasion 57 deaths amounting to some 27·72 per cent. among Act coolies were reported by the inspecting officer. This was attributed to the fact that a very large number of new coolies were imported during the period under report. A large proportion of these, already debilitated by privation and want before emigration and unacclimatized to the Assam climate, succumbed to change of climate and the malarial influences by which they were surrounded on their arrival in Assam. Of the 57 recorded deaths, 19 are due to dysentery, 15 to anæmia, or probably, more correctly speaking, to *beri-beri*, 7 diarrhœa, 4 dropsy, most probably resulting from malarial complications. It is noteworthy that amongst the above no child or infant death is recorded. This enormous death rate is most probably due in a large measure to the fact that a sufficient and suitable food supply was not provided for the immigrants on their arrival in Assam.

"Since the above inspection (11th August 1890) up to date (21st January 1891) of the Civil Surgeon's inspection the death rate has been extremely low, *viz.*, Act 3·27, non-Act 0·29, this no doubt arising from the fact that the survivors have become acclimatized and accustomed to the work, and enabled to provide themselves with many additions to their bare allowance of rice.

"The sanitary condition of the garden leaves little to be desired. The accommodation for the coolies in the lines is excellent. Drainage is good. The water supply is derived from wells, which are carefully preserved from contamination by impurities. Almost all the houses have small vegetable gardens attached."

HUKANGURI (*inspected by the Civil Surgeon on the 26th January 1891*)—

"This special inspection of the Hukanguri garden was ordered in consequence of the high death rate reported by Mr. McCabe on the occasion of his inspection on 22nd July 1890. On that occasion out of 40 deaths reported, 23 were due to cholera, 9 to chronic dysentery, 5 to remittent fever, and 3 to all other causes.

"During the period that elapsed between Mr. McCabe's inspection and the present, 51 deaths have occurred, out of which 25 are due to cholera, 11 to sloughing sore locally known as Nága sore, 6 to fever, 3 to dysentery, 3 to *beri-beri*, and 3 to other causes. From this it will be seen that cholera is alone accountable for more than 50 per cent. of the deaths on this garden. What to attribute this large cholera death rate to would be impossible for me to say. The manager and the medical officer thought that the stiff clay subsoil, on which one section of the line rested, was

responsible, and accordingly all the lines which were thus situated were removed to higher ground on a sandy subsoil.

"Two large new wells are being dug, the old wells have been covered in, fitted with pumps and tanks with taps, from which alone water can be drawn, so that contamination of the water-supply is practically impossible. The management admit that the labour force on the garden was not equal to the area under cultivation, so that overwork was the rule; and this doubtless acted detrimentally on the health of the coolies in many ways, *i.e.*, excessive bodily fatigue, insufficient time for cooking, procuring vegetables."

In accordance with the recommendation of the Commissioner, a Committee will be held on this garden:

LEPETKATTA *(date of inspection not given)*—

"The present medical inspection of this garden was ordered in consequence of the high mortality brought to light by Mr. Lea in his inspection report of the 21st February 1890. But for the period intervening between that inspection and present one, the death rate has much increased, being as high as 10 per cent., the chief diseases being bowel-complaints, anæmia, and dropsy, both probably due to the same originating cause in *beri-beri*. The situation of the lines is bad, being situated on the edge of an extensive swamp. The coolies' huts are in a very ruinous condition, and, judging by their present appearance, cannot in my opinion have been watertight throughout the rains."

CHABUA *(inspected on the 18th February 1891)*—

"This is a very large garden, having over a thousand labourers actually at work on the day of inspection, and having 950 acres of tea under cultivation. There were 56 deaths reported since the date of last inspection, *i.e.*, 7th April 1890; of these, 23 were due to dysentery. The lines and their surroundings were the best that I have seen, far better than the lines of a native infantry regiment. There are two wells to each row of lines, one at either end. The wells themselves are lined with brick and cement, the surface all round being *pucca*, thus rendering any pollution of the well-water impossible. There is a most elaborate system of deep drainage in and about the lines, the main outlet drain being over a mile in length, communicating with Sessa river. On this estate it is almost impossible to find any sanitary shortcoming whatever. But there remains the one drawback, which is almost common to all Assam gardens, more especially to large ones, that coolie population receive far too little antiscorbutic food; and I consider the large death from dysentery to be mainly due to this cause."

TIPHUK *(inspected on the 21st March 1891)*—

"On this garden the labour force is evidently unequal to requirements, and I am of opinion that much of the sickness and mortality now prevalent is due to this cause. *Beri-beri* is very prevalent; quite a third of the adult males are more or less affected. Among the women and children the disease is not nearly so prevalent. This condition of things is doubtless mainly owing to the entire absence of any attempt at conservancy coupled with the filthy and ill-drained condition of the lines. Except on *hât* days, no vegetables are obtainable, and as far as I can learn, during the rains very few vegetables indeed are even at the *hâts* obtainable. In connection with this point it is noteworthy that the principal portion of the death rate occurs at this season. Dr. Norvell visits twice a week. I am of opinion that in the present condition of sickness and mortality on this garden more frequent visits from Dr. Norvell are an absolute necessity, more especially as the so-called resident native doctor possesses no sort of qualification whatever."

SAMDANG *(inspected on the 20th March 1891)*—

"The lines, huts, and water-supply on this garden are all good. The number of sick is small. There are two good wells now in use, and a third is in course of construction.

"The labour supply is evidently inadequate. More than half the deaths are due to dysentery.

"This garden is visited once a week by Dr. Norvell. I am of opinion that, considering the fact that the resident native doctor possesses no sort of qualifications, and the high rate of sickness and mortality, more frequent visits are an absolute necessity."

BALIJAN *(inspected on the 25th March 1891)*—

"The death rate in this garden is very little above 7 per cent., the principal death rate being among new arrivals. The situation is doubtless extremely unhealthy, as the garden is only a clearing in dense forest."

PANITOLA *(inspected on the 21st February 1891)*—

"On this garden, as on all others that I have up to the present visited, bowel-complaints, mainly dysentery, have been the chief factor in the high death rate which prevailed during the past year. In connection with this high death rate from dysentery, it would be well to consider whether or not the dysentery was not of scorbutic origin. On this garden there was a coolie population of considerably over thousand souls, and the inspecting officer was struck by the almost entire absence of green food in the coolie dietary. The nearest *hât* is miles way. These thousand souls ought, for the preservation of health, have at least 4 chataks of vegetables per individual per day. This would amount to over six maunds per day for the whole. I hardly think I am exaggerating when I say that the estate did not produce 6 chataks of vegetables per day. I consider that this death rate from dysentery will never be stopped till the coolies are provided with a proper antiscorbutic dietary. The lines themselves are in fair condition. The wells are apparently good, but all the pumps fixed therein are out of order, and undoubtedly are not worked for months."

As regards the Hulmari garden, the Commissioner of the Assam Valley Districts wrote—

"The Civil Surgeon, having been in charge of the military as well as the civil duties at Dibrugarh, has been unable to pay the visit he had intended to North Lakhimpur in March. The Assistant Commis-

sioner, North Lakhimpur, inspected the remaining unhealthy garden, Hulmari, on the 13th May 1891, and he writes—

"'The water in the covered tank does not look particularly clear, and as there is a lot of dysentery, I took a bottle of the water for analysis. Dr. Smith however thinks the coolies drink bad water from Hulmari *bhil*. The lines look very nice just now, but Dr. Smith says that in high floods the *bhil* water floods the drains in the lines, and he is trying to have the situation of the line altered. The number of fractional *hazirís* is very large. Explanation given is that it includes sick fractions and new batch of bad coolies. The coolies seemed to be able enough to work.'

"The manager of this garden was tried for causing the death of a coolie in March 1890, and the garden requires looking after."

OAKLANDS (*inspected on the 20th February 1891*)—

"The death rate in this estate is only barely above 7 per cent. Of 11 deaths reported, 3 are returned as due to general debility and 3 to *anchylostomiasis*. These are all undoubtedly attributable to a common cause, *i.e.*, *beri-beri*. The lines are in good order. The drainage is good and efficient, though the country is very low-lying, and frequently become submerged in the rainy season."

MESAIJAN (*inspected on the 19th March 1891*)—

"The lines and drainage on this garden are in very good condition. The water-supply is however very insufficient. There are three wells: one, owing to a suicide having been committed therein, is not used; another is under repair; the third, which is at present the only one used, has hardly 12 inches of water in it, an amount entirely unequal to the requirements of the large number of coolies quartered in these lines. There are no vegetable gardens, and, considering the distance (3 miles) of the nearest *hât*, fresh vegetables are practically unobtainable. This circumstance, coupled with the extremely high death rate (41 since 10th April 1890) from dysentery, points to the conclusion that all these deaths have resulted from scorbutic dysentery. Many of these lines would probably have been saved by a proper diet containing an adequate supply of green vegetables.

"On a large garden (on the Sadiya road) noted for the healthiness of its labour staff, a gratuitous issue of soaked gram is made to such coolies as apply for it each morning before going out to work. Another garden in the neighbourhood (Ajunni) is used for this purpose. Thirty-two sick attended at hospital on the morning of my inspection. Dr. Norvell visits once a week. I am of opinion, considering the extremely high rate of sickness and mortality, more frequent visits ought be arranged for."

Assam Railway and Trading Company's coal-mines.

The subject of the serious mortality which occurred amongst the labour force employed in the coal-mines of the Assam Railway and Trading Company is being separately considered by the Chief Commissioner, and the necessary orders will be issued in due course. The mines were inspected by the Commissioner and Civil Surgeon on the 9th March 1891, and the following remarks were recorded by the latter officer on that portion of the mines which is at Ledo and Tikak respectively:

"*Ledo.*—This is apparently a most healthy spot. The water no doubt contains a good deal of iron, but otherwise from a sanitary point of view there is little fault to find in the situation of the lines in which the colliery workpeople live. The settlement is situated in a small clearance in a valley between two spurs of the Nága Hills, the country round being covered with dense forest. The diseases which cause the very high mortality are bowel-complaints, more especially dysentery, the larger portion of the deaths occurring among newly-arrived, and consequently unacclimatized, coolies. The sanitary measures to be advised are to see that each coolie takes before going to work a meal, in a word, to take care that the workman does not go to his work fasting, and that during the midday recess hour each workman is provided with a decent meal. This is done in every jail in India for the lowest stratum of the community, and certainly should, in my opinion, be done for the workpeople by all employers of labour. The thing at first may seem very difficult, but I am convinced that adoption of a few simple measures to obviate the evil pointed out would result in an enormous saving to the company. Nothing is so expensive as sickness. The lack of vegetables is very noteworthy. In this respect the cold weather may well be left to look after itself; it is during the rains, when the death rate is at its highest, that this want is most felt."

"*Tikak.*—Beyond situation and water-supply, all that has been said of Ledo applies equally well to Tikak. The settlement is situated on an extremely steep hillside about 500 feet above level of the surrounding country. Most perfect natural drainage exists. Water-supply is a mountain stream, which has been bunded up, and conveyed by pipes all over the lines. The water is decidedly good. Suggested sanitary improvement same as Ledo."

The Commissioner wrote as follows:

"I noticed there is no quarantine arrangement at the collieries. I have directed that new arrivals should be kept some time in quarantine.

"There can be no excuse for want of vegetables in the cold season. But in the months July to October they are no doubt difficult to obtain. I found the coolies eating a *sag* brought in by Nágas, a very poor *sag*, a kind of wild mustard. They also greedily consume *fungi*, which the Nágas sell them. Wild *kachu* leaves are also in demand.

"Hotels have been started both at Ledo and Tikak. The charge is 2 annas per diem for their meals. The coolies are allowed to eat as much as they like, and to take their meals away at their own houses if they prefer it. The food is excellent. The cost to the company is about 4 annas per diem, out of which 2 annas is recovered. At Tikak some 80 persons out of 532 were feeding at or from the hotel; at Ledo 157 out of 1,200 the day I was there. Children are fed free of charge. Married people do not come much to the hotels. If one is in hospital, the other comes.

"Task work is not enforced as on tea gardens. A gang has to turn out a certain number of tubs of coal per diem. Wages are paid not with reference to what each workman turns out, but with reference to his supposed capacity. New coolies are paid Rs. 7-8 and Rs. 8, woman Rs. 7 and Rs. 8, old coolies Rs. 10 and 12.

"The water-supply is good at Tikak, but at Ledo the wells are impregnated with iron. The company is making a tunnel into the mountain at Ledo, and expect to tap a spring of good water. In this way good water should be supplied to the men when at work in the mines.

"The hospital arrangements at Margherita are excellent. But Margherita is some distance from Tikak and Ledo. There are outdoor dispensaries at these places.

"Prices are—

Chawal (new Bengal)	...	...	...	...	10 seers per rupee.
Dal (*Arahar*)	...	...	...	...	2 annas per seer.
„ (*Musuri*)	...	...	...	...	2 „ 1 pice per seer.
Onions ...	...	...	...	...	3 „ per seer.
Mustard oil ...	...	...	...	...	8 „ „

"In two directions I noticed great improvement since I last visited the collieries.

"(*a*) *Milk-supply.*—Cattle do very well at the collieries. There is a sort of bamboo grass, which suits them admirably. As the jungle is cleared, this bamboo grass springs up.

"(*b*) *Jungle-clearing.*—About this there has been much correspondence, and for some years I was unsuccessful in my efforts to get the jungle cleared. The difficulty has of late years been removed. The whole place has a much more open and healthy appearance than it had when I last visited it in 1887.

"I took with me to the collieries one of the most experienced tea-planters in Assam, for many years Superintendent of the Assam Tea Company, with a view to obtaining hints regarding the management of the coolies in this isolated place. This gentleman found the coolies well cared for and in fairly good case. They did not appear to him to be overworked.

'As the Chief Commissioner knows, the Civil Surgeon is also medical officer to the company. I and the Deputy Commissioner have therefore been able to exercise careful supervision through the Civil Surgeon, who visited the collieries once a fortnight. On my visitations of Dibrugarh, I have always consulted the Civil Surgeon as to the condition of the coolies at the company's collieries. It was in September that I first learned from the Civil Surgeon how unhealthy they had become. Unfortunately, Mr. McCabe carried off Dr. Tamizuddin's inspection memorandum, and it only came to hand on 3rd November 1890. And then, as I have explained, it was not put up to me. I think that the arrangement that the Civil Surgeon should also be medical officer of the company was a good one, and that in the past it has enabled us to look after the coolies at the collieries much better than we otherwise could have done. The company have now appointed a special European medical officer at the collieries, and the Civil Surgeon's functions as medical officer to the company, I presume, cease. In that case the Civil Surgeon's fortnightly visits are suspended. I shall report further on the subject later on.

"I have often expressed an opinion that only gardens in healthy situations where supplies are ample should be allowed the benefits of a Penal Contract Act, and I was very unwilling to allow a penal contract at these collieries. Had I been consulted in the matter, I should probably have recommended that they should be worked with free labour. The difficulty in that case would be that, though nominally free, the labourer would really have been less free than he is under a penal contract. When once he has been induced to go to this isolated spot, he is absolutely in the hands of his employer. It is better perhaps that we should maintain the Act and the power of inspection which it affords us. On the other hand, we cannot continue to support a company in operations which result in the consumption of labour at the rate of 17·75 per cent. per annum. On the whole, I am inclined to recommend the Chief Commissioner to take action under section 129 of the Act. Perhaps he would be justified in postponing the step until the result of this year's working is known."

RANGLITING *(inspected on the 17th February 1891)*—

"This is a very small garden, and, on the whole, a very healthy one. The death rate during the period under report has been high from what may be considered as purely accidental causes. Two deaths on the garden were of epileptics, who had fallen into fire during a fit, and died of the injuries then received, while two were females, who had died of puerperal fever, which appeared to have been extremely prevalent in that portion of the district during May 1890."

HATIALI *(inspected on the 19th February 1891)*—

"This garden is a clearing in dense forest. The number of coolies kept upon the place is small. Since the last inspection (14th July 1890), 15 deaths returned having occurred with an average strength present of about 130. Of these deaths, 8 are returned as having been due to debility (no doubt they were really cases of *beri-beri*, which the medical officer on the garden had failed to diagnose); 4 due to dysentery. The garden is a very new one. All the land now occupied by tea has been recently reclaimed from the forest. The doctor Babu on the estate has no sort of medical qualifications, and knows little about his business. I consider a properly-qualified Hospital Assistant ought to be stationed upon this garden. I saw three cases of undoubted *beri-beri* in the attendance of the garden dispensary on the day of my inspection. They are all classed by medical officer as due to other diseases."

General remarks on unhealthy gardens.

48. In the foregoing paragraphs the Chief Commissioner has confined himself to giving extracts from the reports regarding gardens on the unhealthy list, but he desires again to call the attention of all officers concerned to the remarks made in paragraph 48 of last year's report, and to the necessity for closely adhering to the orders of the Government of India quoted

in paragraph 40 of this report. In the case of all gardens appearing on the unhealthy list, Deputy Commissioners should invariably, when submitting the Civil Surgeon's reports, explain what action they propose to take in regard to the assembling of Committees, and if the circumstances are not such as to render a Committee necessary, they should be careful to see that the recommendations made are carried into effect within a reasonable time. Inspections are obviously useless unless steps are taken to see that effect is given to the recommendations made by the inspecting officer.

CHAPTER VI.

INSPECTION.

Number of gardens submitting returns.

49. The number of gardens shown in the inspection registers has increased from 896 to 907, and the number submitting returns from 762 to 772. In Cachar managers were again backward in submitting returns, the last amended return having been received by the Deputy Commissioner as late as the 22nd March 1891, but no prosecutions were undertaken. In Sylhet, one manager was prosecuted for non-submission of returns during the year under report.

Classification of gardens according to the labourers employed and inspection of Act and non-Act gardens.

50. The following statement shows the number of gardens, classified district by district, according to the number of labourers employed, the number which submitted returns, and the number visited by inspecting officers :

	Cachar.					Sylhet.					Kámrúp.					Darrang.				
	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.
Number of gardens	146	35	..	6	187	70	42	2	1	115	10	5	44	30	89	76	4	2	7	89
„ sending returns 50 and 51.	146	35	..	..	181	70	42	2	..	114	10	5	3	..	18	76	4	2	..	82
„ inspected once ..	128	35	..	..	163	67	39	1	..	107	9	5	..	..	14	62	4	..	..	66
„ „ twice ..	18	..	..	..	18	3	2	..	..	5	1	..	..	..	1	6	..	..	..	6
„ „ thrice ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Total number inspected ..	146	35	..	..	181	70	41	1	..	112	10	5	..	..	15	69	4	..	..	73
Total „ „ 1889 ..	131	20	..	..	151	68	34	1	..	103	9	4	1	..	14	73	4	..	..	77

	Nowgong.					Sibságar.					Lakhimpur.					Total.				
	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.	Employing Act coolies.	Non-Act. Over 50.	Non-Act. Under 50.	No coolies on estate.	Total.
Number of gardens	33	15	8	5	61	163	13	4	35	215	133	4	4	10	151	631	118	64	94	907
„ sending returns 50 and 51.	33	15	8	..	56	163	13	4	..	180	133	4	4	..	141	631	118	23	..	772
„ inspected once ..	32	15	..	..	47	126	13	..	..	139	124	4	4	..	132	548	115	5	..	668
„ „ twice ..	5	1	..	..	6	31	..	..	..	31	9	..	..	..	9	73	3	..	..	76
„ „ thrice ..	..	..	..	..	..	3	..	..	..	3	..	..	..	..	..	4	..	..	..	4
Total number inspected ..	37	16	..	..	53	160	13	..	..	173	133	4	4	..	141	625	118	5	..	748
„ „ „ 1889 ..	34	14	..	..	48	160	10	..	..	170	133	4	4	..	141	608	80	6	..	704

The Chief Commissioner is glad to notice that inspection work shows an improvement, 748 gardens having been inspected, against 704 in the preceding year. Moreover, 76 gardens were inspected twice and four gardens three times, against 53 and 3 respectively during 1889. In Cachar all the gardens liable to inspection were inspected, the bulk of the work having been performed by Mr. Anderson, the late Deputy Commissioner, who carried out no less than 40 inspections, the Civil Surgeon, the Assistant Commissioner, and an officer (Mr. Pittar) whom it was found necessary to depute specially for this purpose in view of the exceptional circumstances which prevailed in the district, and the necessity for completing inspection work by the date prescribed on account of the census (30th September 1890). In Sylhet also all the gardens liable to inspection were inspected. Of the three gardens left uninspected, two were not liable to inspection, one having less than 50 coolies on it, and the other having none. Kekragul garden was however liable to inspection, but it was inspected along with Gambhiracherra before the

two were separated. Similarly, in Kámrúp all the gardens employing Act labour or non-Act labour in excess of 50 persons were inspected by the Deputy Commissioner. In Darrang seven estates employing Act labour remained uninspected, and the Chief Commissioner is not satisfied with the reason given for the non-inspection of these gardens, namely, pressure of work. In this district moreover the Deputy Commissioner failed to perform a sufficient portion of the work, having inspected only 15 gardens out of 73. Of the 48 gardens liable to inspection in the Nowgong district, 47 were inspected during the year, and the remaining garden was inspected in January of the current year. In this district the Deputy Commissioner took his full share of the work, having carried out 22 out of 53 inspections. The remaining inspections were performed by the Civil Surgeon. It is satisfactory to notice that in the Nowgong district the practice is to muster the Act labourers on occasions of inspection. In Sibságar all the gardens employing Act labour were inspected during the year, except three new gardens in the Jorhát subdivision, as to which the Deputy Commissioner explains that the subdivisional officer was not aware of the opening of these gardens until he received returns from the managers after the close of the year. Of the total number of inspections performed, the Deputy Commissioner undertook only 12, which is not an adequate number. In this district, as in Cachar, it was necessary to place an officer on special duty for the purpose of completing the work by the prescribed date. The Chief Commissioner is glad to notice that the Civil Surgeon (Dr. Banerji) reports that in the case of all the gardens inspected by him the coolies were mustered. In the Lakhimpur district all gardens were inspected, but the Chief Commissioner is not satisfied that the Deputy Commissioner undertook a fair share of the work, having carried out 24 inspections only out of 141. On the whole, therefore, the outturn of inspection throughout the Province was good, though it is open to doubt whether in all cases a sufficient share of the work was undertaken by the Deputy Commissioners.

CHAPTER VII.

WORKING OF THE SYSTEM GENERALLY.

Relations between employers and labourers.

51. The Deputy Commissioner of Cachar reports that on the whole the relations between employers and labourers are satisfactory, and that nearly all managers understand that it is to their interest to treat coolies well. In one case a manager was fined for inflicting a cut or two with a cane on an imported coolie, who was found endeavouring to take away two coolies born and bred on the garden. The Deputy Commissioner of Sylhet writes—

"The relations between the managers and their coolies continue to be satisfactory. No serious complaints were brought to notice during the year. I am inclined to think that coolies often bring complaints of detention beyond the agreement as a means of ascertaining whether their agreements have expired or not.

"The managers do not encourage coolies to apply for permission to leave the garden. The coolie is afraid to ask the manager about the matter, but comes to court. At all events, the explanations given by the managers in reply to these complaints have been satisfactory, and no coolies have disputed the manager's explanation.

"Two complaints of ordinary petty assault were laid before the subdivisional officer, Karimganj, but one was dismissed after enquiry under section 202 of the Criminal Procedure Code, and in the other the complainant thought better of it and could not proceed with the case. In one case five coolies, three women, and two men were convicted of assaulting the manager, and were sentenced to six weeks' rigorous imprisonment. This case appears to have arisen in some quite inexplicable way out of a disturbance which took place on a neighbouring garden."

No complaints on the part of labourers against employers were brought to the notice of the Deputy Commissioner during the year. The Deputy Commissioner of Darrang reports as follows :

"The relations between employers and labourers were, I am told, generally satisfactory. The following are the facts of noticeable offences committed by the garden coolies during the year under report :

"On the 15th March 1890, in the afternoon, the coolies of the Balipara garden were paid their wages for the month of February 1890. The Kacharis, the Bengali coolie women and children, and half the Bengali male coolies had been paid when an uproar arose. The Bengali coolies asserted that they had received less pay than they earned during the month. The manager (Mr. C. Whyte), who had assumed charge of the garden only a couple of months before, heard the noise, and shortly after received the message from the *kerani*, who paid the coolies with the assistance of the garden jemadár, to the effect that the coolies were troublesome. The complainant (Mr. Whyte) at once went to the office, but as he passed through the crowd of coolies, he was struck on the face, his hat was knocked off, and his stick was wrested from his hand. The matter was reported to the police, who sent up seven men for trial under section 147, Indian Penal Code. All of these were convicted and sentenced to one month's rigorous imprisonment each by the Extra Assistant Commissioner, Babu Madhub Chandra Bardaloi.

"The *paniwalla* of the manager of the Briardole tea estate was convicted of setting fire to his master's bungalow. He was sentenced to seven years' transportation.

"A coolie at Hanchara was convicted of stealing Rs. 85-10 from a sardár on the garden. He was sentenced to be imprisoned for a year under section 457, Indian Penal Code.

"Six coolies of the Ghogra tea garden (now closed) were sent up on a charge of rioting. It was admitted that they had assaulted and wrongfully confined the garden Babu. They said that they had acted in defence of a woman, whom one of their member claimed to be his sister, while another said that he had tried to induce her to be his mistress. The woman herself denied any relationship of any sort to the accused person. These were all convicted by me under section 458, Indian Penal Code, and sentenced to various terms of imprisonment.

"Some coolies were sent to cash a draft for Rs. 600 at Tezpur. When the money arrived at the garden, Rs. 53 were short. The suspicious conduct of one of the men led to his prosecution. He was convicted (chiefly on circumstantial evidence) under sections 407-409 of the Penal Code, but was released on appeal.

"One coolie at Ghogra was convicted under section 241, Indian Penal Code, having tried to pass a pice coated with quicksilver."

In Nowgong the Deputy Commissioner describes the following case, which occurred on the Silghat garden:

"The manager of the garden, Mr. H. L. Smith, on going to inspect the outdoor work on the morning of the 30th September 1890, was set upon and somewhat severely handled by about 40 coolies, who at the trial alleged that the manager had assaulted a coolie woman for disobedience of orders, and that this led to their attack upon him. The attack on Mr. Smith being admitted by the 14 accused sent up by the police for trial, they were convicted by me and sentenced to undergo rigorous imprisonment of nine months each, but on appeal the sentence on three of the accused was upheld, and that on the rest reduced to four months' rigorous imprisonment.

"A cross case was brought by the woman above referred to against Mr. H. L. Smith for having beaten her severely with a cane in the open tea garden and in presence of all the other coolies working in that part of the garden. I heard this case also myself on the spot at Silghat, but found that the contradiction and discrepancies in the evidence adduced by the complainant were such as to necessitate the dismissal of the case and the acquittal of Mr. Smith. In point of fact, the very nature of the alleged brutal assault on the woman raised the strongest doubt as to the possibility of its truth. But the evidence adduced settled the question definitely."

The other cases mentioned by the Deputy Commissioner are of a petty description, and have no direct bearing on the relations between employers and labourers. The Deputy Commissioner of Sibságar reports as follows:

"In 1889 there were six cases of assault brought by labourers against managers. In 1890 there were also six cases. Of these, only one was important. The manager of Cherideo and five others were summoned for causing hurt to a coolie, the reason alleged being that the coolie allowed a certain woman to go and live in his house. The beating was evidently a very severe one. Application was made to compromise the case, which the magistrate most reluctantly had to allow, as the case did not come under either section 325 or 147, Indian Penal Code. The complaint alleged that five men had held the coolie with his face against a ladder, while the manager administered a severe flogging.

"In three cases the manager took the law into his own hands, and whipped coolies for repeated drunkenness. All cases referred to the same occasion. Two cases only were prosecuted, and the manager was fined Rs. 15 in each. The whipping had been slight in all the cases. The two remaining cases were of a petty nature, and were compromised.

"The relations between employers and labourers are better shown by the charges brought by managers. I have no doubt coolies sometimes submit to a slight chastisement in preference to being put into court, but a disturbance or rising on the part of the coolies generally indicates mismanagement or a want of touch between the employer and labourers. The following is a brief description of cases brought by managers:

"On the Tyroon garden there was a quarrel leading up to a scuffle between the manager and the head muharrir. The latter went and fetched some coolies, who menaced the manager, and would no doubt have assaulted him if he had not remained inside the bungalow. All the accused were sentenced to three months' rigorous imprisonment under section 143, Indian Penal Code, but the High Court reduced the sentence passed on the muharrir to two months. The explanation of this disturbance was that the manager was new, and the garden generally had been allowed to get out of hand, owing to the ill-health of the previous manager, since deceased.

"In another case about six coolies of the Duklengia garden went to the manager's bungalow, armed with sticks, hoes, &c., ostensibly to ask for leave, but in reality to irritate the manager into bringing about a riot. They were sentenced to three weeks' rigorous imprisonment under section 143, Indian Penal Code.

"In one case a coolie was sentenced to two months' rigorous imprisonment under section 504, Indian Penal Code, for uttering abuse and trying to provoke the manager to a breach of the peace, because the latter had seen him beating his wife, and had scolded him for it. The manager was ill at the time, but the sentence seems to have been rather severe.

"There was a case on the Rangajan tea estate, in which a line chaukidár was severely handled by some coolies in consequence of a quarrel between him and a stoker about absence without leave. The manager brought the complaint, but does not seem to have been in any way directly responsible for the disturbance.

"Of the above cases, the first two show unsatisfactory relations between managers and coolies, but in the first case the explanation is satisfactory.

"In the Rangajan case there may have been a want of touch between the manager and the coolies, but as the manager has been a long time in tea, it is more probable that the stoker was a man of violent temper, and that the quarrel was a sudden one, and not the result of a smouldering discontent; the record of the case at least points to this."

The Deputy Commissioner of Lakhimpur writes—

"Relations between employers and labourers have been generally satisfactory. The following cases, which came before the courts, may be noticed :

"The manager of a garden in North Lakhimpur was tried for voluntarily causing grievous hurt to a coolie, who afterwards died. He was tried in the court of sessions before a mixed jury, and was found guilty of a simple assault, and was fined Rs. 100. This case was referred to on page 51 of the last Provincial Immigration Report.

"A manager was fined Rs. 50 for causing hurt to a boy by giving him a severe caning. The boy had been warned, and was caught trying to run away with a girl belonging to the garden. The manager had warned the boy, and deliberately took the law into his own hands. The sardár who caught the boy was fined for wrongfully restraining him.

"A manager charged a number of coolies with assault, but when the magistrate went to make enquiry, the charge was withdrawn. A serious charge was brought by a woman against a young assistant. It was proved to be entirely groundless, and probably arose from her misunderstanding the words used."

Relation between the tea garden population and the villagers.

52. There is nothing to note under this head. As a rule, the garden population continued to live on friendly terms with the natives of the country.

The Deputy Commissioner of Sylhet writes—

"Between the garden population and the villagers also relations continue to be satisfactory. The is some slight friction amounting at times to a *marpit* between the coolies and the villagers. No cases however resulting in grievous hurt or homicide were heard of during the year. Occasionally they disagree, as when coolies are trying to abscond and the villagers in the hope of getting a reward try to arrest them, but, generally speaking, they seem to pull well together. The villagers find the garden bázárs most profitable markets for their rice, vegetables, &c., and take full advantage of them."

General condition of labourers.

53. This matter has been fully dealt with in the special report on the working of Act I of 1882, and there is nothing new to report in regard to it.

Settlement of time-expired garden labourers on the land.

54. The figures below show the amount of land held direct from Government by immigrants in the various districts of the Province :

District.	1889.	1890.
	Acres.	*Acres.*
Cachar	6,626	7,133
Sylhet	284	300
Kámrúp	49	42
Darrang	6,371	7,454
Nowgong	1,425	1,895
Sibságar	9,217	10,639
Lakhimpur	4,404	4,897
Total	28,376	32,360

The increase is common to all districts except Kámrúp, but there can be little doubt that the figures do not embody complete information. Thus, the Deputy Commissioner of Darrang remarks—

"The acreage held by time-expired coolies continues to increase. But these figures do not include the numerous time-expired coolies who have settled on grants held by tea-planters. There are many such in the Bishnath, Charduar, and Pabhoi Companies' grants, and probably in other places which I have not yet seen."

And the Deputy Commissioner of Lakhimpur reports—

"These figures admittedly do not show land held by coolies direct from managers, and the census returns of population will probably show that they are very incomplete. Immigrants have settled and are settling in large numbers, especially along the line of railway and the roads towards Jaipur and Sibságar, and that the tendency to settle down is increasing is obvious to the most casual observer. I know several large villages of immigrants where seven years ago there were none."

55. The following table shows the receipts and disbursements of the Inland Labour Transport Fund in Bengal and Assam during the year 1890-91 :

Inland Labour Transport Fund.

Receipts.	Rs.	a.	p.	Disbursements.	Rs.	a.	p.
Medical	28	12	0	Salaries of depôt establishments (including Native doctors, Hospital Assistants, compounders, dressers, clerks, and menial servants)	10,145	8	11
Contractors' license fees under section 13	500	0	0				
Recruiters' license fees under section 24...	800	0	0				
Registration fees under sections 35 and 68	10,937	1	0				
Fees for license of inland steamers and native boats under section 90 ...	1,516	0	0	Supplies and services (including diet of patients, value of medical stores, purchase of country medicines, expenses during the prevalence of epidemics, petty construction and repairs) ...	5,116	0	7
Rates under section 109	50,965	8	0				
Fees for use of debarkation depôts ...	3,175	15	6				
Diet, &c., charges recovered ...	1,961	3	6				
Recoveries for sick coolies treated in hospitals	149	2	3	Contingent charges	813	13	1
Cash recoveries	71	10	2	Grants to dispensaries	5,498	0	2
Fines and miscellaneous	578	6	0	Inspectors, embarkation agents, and other officers	21,108	4	3
				Clerks and servants	13,172	2	9
				Travelling allowances	1,481	14	6
				Miscellaneous (including rents, percentage of treasury and audit establishments, refunds, pensions)	5,152	12	9
Total	70,683	10	5	Total	62,488	9	0

By order of the Chief Commissioner of Assam,

Dated the 30th July 1891.

F. C. DAUKES,

Secretary to the Chief Commissioner of Assam.

RETURN.

Return showing the Statistics of Labour Force of

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Classes of labourers.	Number remaining at the end of the year.	Additions made during the year 1890.												
		Imported.			Otherwise than by importation.									
		By contractors.	By garden sardárs.	Free labourers and dependents imported direct.	Number giving contract under section 111.	Number giving contract under section 112.	Received from other gardens.	Recovered after having been struck off as deserters.	Remaining after expiry of contract.	Otherwise obtained.	Births.	By transfer to adults from minors.	Total added.	Total of columns 2 and 14.
Cachar .. Act I labourers (adults) ..	10,043	520	862	....	696	63	35	54	....	....	....	....	2,280	12,273
Cachar .. Non-Act labourers.. Adults ..	44,395	....	....	1,450	....	..	553	..	3,219	5,311	....	1,165	11,697	56,092
Cachar .. Non-Act labourers.. Children..	43,919	....	....	591	....	..	107	..	94	1,440	2,929	....	5,161	49,080
Total ..	98,357	520	862	2,041	696	63	694	54	3,313	6,751	2,929	1,165	19,088	117,445
Sylhet .. Act-I labourers (adults) ..	9,444*	49	653	....	1,770	..	67	35	....	....	....	....	2,074	12,018
Sylhet .. Non-Act labourers .. Adults ..	38,881*	....	....	4,301	....	..	1,752	..	1,761	2,719	....	841	11,374	50,255
Sylhet .. Non-Act labourers .. Children..	29,898	....	....	3,103	....	..	624	..	....	898	2,258	....	6,883	36,781
Total ..	78,223	49	653	7,404	1,770	..	2,443	35	1,761	3,617	2,258	841	20,331	99,054
Surma Valley Act-I labourers (adults)	19,467	569	1,515	....	2,466	63	102	89	....	....	....	....	4,804	24 291
Surma Valley Non-Act labourers .. Adults ..	83,276	....	....	5,751	....	..	2,304	..	4,980	8,030	....	2,006	23 071	106,347
Surma Valley Non-Act labourers .. Children..	73,817	....	....	3,694	....	..	731	..	94	2,338	5,187	....	12,044	85,861
Total ..	176,580	569	1,515	9,445	2,466	63	3,137	89	5,074	10,368	5,187	2,006	39,919	216,499
Kámrúp .. Act-I labourers (adults) ..	601	86	141	....	8	1	27	10	....	....	....	....	268	869
Kámrúp .. Non-Act labourers .. Adults ..	1,455	..	....	11	....	..	98	..	14	322	....	49	494	1,949
Kámrúp .. Non-Act labourers .. Children..	1,216	....	....	17	....	..	47	..	....	57	109	....	230	1,446
Total ..	3,272	86	141	28	8	1	172	10	14	379	109	49	992	4,264
Darrang .. Act-I labourers (adults) ..	16,471	1,904	829	...	3,344	141	136	79	....	....	....	....	6,433	22,904
Darrang .. Non-Act labourers .. Adults ..	11,438	....	....	354	....	..	50	..	1,972	3,588	....	371	6,335	17,773
Darrang .. Non-Act labourers .. Children..	12,608	....	....	1,176	....	..	31	..	....	527	646	....	2,380	14,988
Total ..	40,517	1,904	829	1,530	3,344	141	217	79	1,972	4,115	646	371	15,148	55,665
Nowgong .. Act-I labourers (adults) ..	2,748	440	491	....	127	20	40	12	....	....	....	....	1,130	3,878
Nowgong .. Non-Act labourers .. Adults ..	6,309	....	....	1,062	....	..	88	..	392	927	....	46	2,515	8,824
Nowgong .. Non-Act labourers .. Children..	4,968	....	....	425	....	..	43	..	....	244	355	....	1,067	6,035
Total ..	14,025	440	491	1,487	127	20	171	12	392	1,171	355	46	4,712	18,737
Sibságar .. Act-I labourers (adults) ..	33,222	2,647	2,314	....	8,400	392	1,064	75	....	....	....	....	14,892	48,114
Sibságar .. Non-Act labourers .. Adults ..	20,748	....	....	423	....	..	544	..	4,491	3,524	....	613	9,595	30,343
Sibságar .. Non-Act labourers .. Children..	33,898	....	....	2,263	....	..	522	..	....	538	2,328	....	5,646	39,544
Total ..	87,868	2,647	2,314	2,686	8,400	392	2,130	75	4,491	4,057	2,328	613	30,133	118,001
Lakhimpur .. Act-I labourers (adults) ..	24,741	4,436	2,001	....	2,375	81	871	166	....	....	....	...	9,430	34,171
Lakhimpur .. Non-Act labourers .. Adults ..	19,198	....	....	1,251	....	..	280	..	2,320	1,917	....	437	6,185	25,383
Lakhimpur .. Non-Act labourers .. Children..	24,267	....	....	2,300	....	..	193	..	....	636	1,668	....	4,797	29,064
Total ..	68,206	4,436	2,001	3,551	2,375	81	844	166	2,320	2,553	1,668	437	20,412	88,618
Brahmaputra Valley. Act-I labourers (adults) ..	77,783	9,513	5,776	....	14,249	635	1 638	342	....	....	....	....	32 153	109,936
Brahmaputra Valley. Non Act labourers .. Adults ..	59 148	....	....	3.081	....	..	1,060	..	9,189	10,278	...	1,516	25,124	84,272
Brahmaputra Valley. Non Act labourers .. Children..	76,957	....	....	6,181	....	..	836	..	....	1,997	3,106	....	14,120	91,077
Total ..	213,884	9,513	5,776	9,262	14,249	635	3,534	342	9,189	12,275	3,106	1,516	71,397	285,285
Total for the Province. Act-I labourers (adults) ..	97,270	10,082	7,291	....	16,715	*698	1,740	431	....	....	....	....	36 957	134,227
Total for the Province. Non-Act labourers .. Adults ..	142,424	....	....	8,832	....	..	3,894	..	14,169	18,308	....	3,522	48,195	190,619
Total for the Province. Non-Act labourers .. Children..	150,774	....	....	9,875	...	..	1,567	..	94	4,355	10,293	....	26,164	176,938
Total ..	390,468	10,082	7,291	18,707	16,715	698	6,671	431	14,263	22,643	10,293	3,522	111,316	501,784

* The difference of 12 labourers between these two entries and those shown in column 31 of the statement against Sylhet at the end of the Report for 1889, is due to some redistributed into their correct classes.

the Tea Gardens in the Province of Assam during the year 1890.

16	17	18		19		20	21	22	23	24	25	26	27	28	29	30	31	32	33		34
Deductions made during the year 1890.																	Number remaining at the end of the year 1890.	Strength on 1st July 1890.	Annual strength.		Death rate per mille.
Transferred to other gardens.	Left the garden with permission.	Deaths.		Desertions.		By transfer from minors to adults.	Number giving agreements under section 111.	Number giving agreements under section 113.	Cancelment under sections 111, 140, or 177.	Cancelment for permanent unfitness under section 122.	Cancelled under section 129.	Suspended under section 130.	Efflux of time, section 141.	Redemption, section 142.	Number dissolved by mutual consent.	Total deducted.			First half-year.	Second half-year.	
		First half-year.	Second half-year.	First half-year.	Second half-year.																
35	....	206	339	279	321	....	....	....	11	25	1	..	2,934	5	4	4,100	8,113	9,264	9,658	8,688	60·3
552	4,851	601	879	1,090	1,283	....	431	67	....	....	..	..	....	..	..	8,954	47,138	46,816	45,806	46,978	25·4
107	1,674	415	686	212	216	1,165	....	..	....	....	..	..	....	..	..	4,475	44,005	44,198	44,058	44,401	24·8
694	6,025	1,222	1,604	1,581	1,820	1,165	431	67	11	25	1	..	2,934	5	4	17,529	99,256	100,280	99,318	100,068	28·3
35	....	239	297	408	227	....	....	....	2	51	..	..	1,854	..	2	3,165	8,863	9,689	9,551	9,226	57·0
364	4,198	496	633	1,105	1,264	....	739	....	....	....	..	..	....	..	..	8,799	41,456	41,451	40,151	41,438	27·5
217	1,812	313	407	380	393	841	....	....	....	....	..	..	....	..	..	4,373	32,408	31,426	30,962	31,917	22·9
666	6,010	1,048	1,337	1,893	1,884	841	739	....	2	51	..	..	1,854	..	2	16,337	82,717	82,566	80,664	82,611	29·1
120	....	445	686	687	548	....	....	....	13	76	1	..	4,788	5	6	7,326	16,966	18,223	19,205	17,944	58·6
916	8,549	1,097	1,212	2,195	2,547	....	1,170	67	....	....	..	..	....	..	..	17,753	88,594	88,239	85,757	88,416	26·4
324	3,486	728	1,093	602	609	2,006	....	....	....	....	..	..	....	..	..	8,848	77,013	75,624	74,720	76,318	25·0
1,360	12,035	2,270	2,941	3,484	3,704	2,006	1,170	67	13	76	1	..	4,788	5	6	33,926	182,573	182,786	179,683	182,679	28·7
23	....	40	49	36	44	....	....	....	....	1	..	..	16	..	3	212	667	704	652	681	133·3
20	443	72	51	45	33	....	....	1	....	....	..	..	....	..	..	668	1,281	1,375	1,415	1,328	91·4
3	163	47	46	59	5	49	....	....	....	....	..	..	....	..	..	372	1,074	1,109	1,103	1,091	82·5
46	606	159	149	140	82	49	....	1	...	1	..	..	16	..	3	1,252	3,022	3,188	3,230	3,100	97·2
126	....	367	513	291	291	....	....	....	55	8	..	16	2,335	..	11	4,056	16,848	18,757	17,614	18,809	40·6
50	4,070	160	146	444	230	....	1,623	41	....	....	..	..	....	..	..	6,764	11,009	11,760	11,599	11,384	26·5
31	785	131	188	63	33	371	....	...	....	....	..	..	....	..	..	1,574	13,414	13,706	13,157	13,560	21·5
217	4,855	658	847	801	556	371	1,623	41	55	8	..	16	2,335	..	11	12,394	43,271	44,223	42,370	43,747	34·8
40	....	90	61	79	63	....	....	....	....	5	..	..	281	..	6	626	3,250	3,223	2,985	3,236	49·8
42	1,591	146	85	125	103	....	91	10	....	....	..	..	....	..	..	2,199	6,625	7,354	6,881	6,989	32·4
30	255	60	71	45	39	46	....	....	....	....	..	..	....	..	..	551	5,484	5,398	5,183	5,441	25·5
112	1,849	301	230	249	205	46	91	10	....	5	..	..	281	..	6	3,378	15,359	15,975	15,000	15,667	34·0
1,064	....	971	866	400	389	....	....	....	2	85	..	..	9,141	9	35	12,962	35,152	35,282	34,282	35,217	52·8
548	4,457	449	299	405	330	....	3,011	286	....	....	..	..	....	..	..	9,765	20,578	22,318	21,538	21,448	34·2
516	1,485	474	580	170	202	613	....	....	....	....	..	..	....	..	..	4,040	35,504	35,296	34,597	35,400	30·0
2,118	5,942	1,884	1,745	975	921	613	3,011	296	2	85	..	..	9,141	9	35	26,767	91,234	92,896	90,382	92,065	39·7
404	....	603	889	567	484	....	....	....	....	145	..	..	3,943	3	12	7,140	27,031	26,575	25,658	26,803	60·1
100	3,624	311	269	205	228	....	1,163	32	....	....	..	..	....	..	..	6,007	19,376	21,186	20,192	20,281	28·6
159	1,185	232	381	223	153	437	....	....	....	....	..	..	....	..	..	2,770	26,294	26,042	25,154	26,168	23·7
723	4,809	1,230	1,539	995	865	437	1,163	32	....	145	..	..	3,943	3	12	15,917	72,701	73,803	71,004	73,252	38·4
1,607	....	2,161	2,411	1,376	1,271	....	....	....	57	244	..	16	15,716	12	67	24,998	84,938	84,541	81,162	84,739	55·0
810	14,198	1,128	857	1,219	924	....	5,911	370	....	....	..	..	....	..	..	25,403	58,869	63,893	61,570	61,431	32·2
739	3,873	919	1,230	560	434	1,516	....	....	....	....	..	..	....	..	..	9,407	81,770	81,551	79,264	81,660	27·1
3,216	18,071	4,288	4,500	3,155	2,629	1,516	5,911	370	57	244	..	16	15,716	12	67	59,708	225,577	230,085	221,986	227,831	38·8
1,787	....	2,606	3,047	2,063	1,810	....	....	....	70	320	1	16	20,504	17	73	32,323	101,904	103,464	100,367	102,684	54·6
1,76	22,787	2,225	2,065	3,314	3,471	....	7,081	437	....	....	..	..	....	..	..	43,156	147,464	152,242	147,328	149,847	28·8
1,063	7,050	1,677	2,329	1,162	1,043	3,622	....	....	....	....	..	..	....	..	..	18,155	[illegible]	[illegible],175	153,974	157,978	25·8
4,576	30,096	6,508	7,441	6,539	6,343	3,622	7,081	437	70	320	1	16	20,504	17	73	93,634	408,150	412,871	401,669	410,510	34·3

managers having erroneously included in the previous year's Return No. 50 some non-Act coolies who should have been shown in Return No. 51. The labourers however have been